



# *The* **SPAWAR LIST**

Programs, Projects, and Funded Work Efforts  
Associated with SPAWAR HQ and PEOs

2017

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*The*

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***SPAWAR LIST***

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Associated with SPAWAR HQ and PEOs



## The SPAWAR List

The SPAWAR List provides a listing of programs, projects, and funded work efforts associated with SPAWARSYSCOM at the Headquarters and PEO levels. It is drawn from the Program Offices and SPAWAR Budget Submitting Office (BSO 39) through resource sponsor lists identifying funded efforts including designated programs of record (PORs) and work efforts such as "Space and Electronic Warfare" (managed by SPAWAR 5.0) and "SPAWAR Salaries" (managed by SPAWAR 8.0). PEO Acquisition Managers and Program Offices review the list both informally and formally through the TV-5 Tasker System for accuracy and completion before final publication.

The list is updated on an annual basis with additional enhancements with each new version. This year it includes various quick reference options to find program information, to include an index, appendices showing programs sorted by designation and status, and acquisition lifecycle graphics. Future enhancements will include a master list of contractors, a congressional district map of work efforts, Foreign Military Sales (FMS) case lists, and Other Customer Funds (OCF) lists.

The SPAWAR List is a reference document for both the incoming and seasoned acquisition professional.

## Electronic Version

An electronic, downloadable version of The SPAWAR List is located on the SPAWAR public website (<http://www.public.navy.mil/spawar>) and the SPAWAR Acquisition and Program Management site on milSuite. Visit <https://www.milsuite.mil/book/groups/spawar-acquisition-and-program-management> and click on Review The SPAWAR List.

If you do not have a milSuite account, the site is CAC-enabled and will automatically pull your credentials from the Navy Family Accountability and Assessment System (NFAAS) when you sign up for an account; return to the SPAWAR Acquisition and Program Management site on milSuite after your account is active to access the list. The PDF document is fully searchable. To run a keyword search press Ctrl + F to bring up the search function bar.

## Designation and Status

Designation		Status
<b>ACAT</b>	Programs that are designated as a specified Acquisition Category (ACAT) are labeled as "ACAT x" where x varies from I-IV, Pre-ACAT, or Abbreviated Acquisition Program (AAP).	Programs follow the defense acquisition process with its milestone reviews, decision points, and five phases - Materiel Solution Analysis (MSA), Technology Maturation and Risk Reduction (TM&RR), Engineering and Manufacturing Development (EMD), Production and Deployment (P&D), and Operations and Sustainment (O&S).
<b>Projects</b>	Distinct work efforts that Program Offices undertake and are not considered an ACAT or AAP.	Projects do not follow the defense acquisition process. For the purposes of this list they have been grouped into two status categories - Exploratory and Functional - based on the intent of the work effort. Exploratory status contains work efforts that would typically fall into the first three phases of the defense acquisition process: MSA, TM&RR, and EMD. Functional status contains work efforts that would typically fall into the last two phases of the defense acquisition process: P&D and O&S.
<b>Undesignated</b>	Distinct work efforts that are neither ACAT designated nor a Project but appear as a budget line item (e.g., SPAWAR Salaries).	Not applicable (N/A)



## Acknowledgments

Given the size and complexity of SPAWAR's footprint, it is important to acknowledge the contributors to The SPAWAR List who supported the capture, vetting, compilation, and layout design of the programs, projects, and funded work efforts included in this book.

This work was supported by PEO C4I, PEO EIS, PEO Space Systems and their respective individual program offices; SPAWAR Fleet Readiness Directorate (FRD) 100; SPAWAR 1.0; SPAWAR 4.0; SPAWAR 5.0; SPAWAR 8.0; SPAWAR Systems Center Pacific (SSC Pacific); Navy Maritime Maintenance Enterprise Solution—Technical Refresh (NMMES-TR) (PMS 444); MIDS Program Office (PMA/PMW 101); the Joint Tactical Networking Center (JTNC); and Client Solution Architects (CSA) supporting SPAWAR 6.0.

If you have any queries please contact SPAWAR 6.0.



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## **PEO Command, Control, Communications, Computers, and Intelligence (C4I)**

**The following programs and projects are being  
administered by PEO C4I.**





## Overview

The Battlespace Awareness and Information Operations Program Office delivers intelligence, meteorological, oceanographic and information operations data, products and services that provide information warfare capabilities for sailors.

### Programs/Projects

AIS  
 Classic Reach  
 CCOP DRT  
 CCOP SFE  
 CCOP Legacy Subsystems  
 CCOP SPCS  
 DCGS-N Inc 1  
 DCGS-N Inc 2  
 HWDDC  
 ICOP  
 LBS UUV  
 MDA/S2A  
 MIBS/JTT-M  
 MetMF(R) NEXGEN  
 NITES-Next  
 Navy Meteorology and  
 Oceanography Analytic Node  
 RSCD  
 SSEE Inc E  
 SSEE Inc F  
 SSEE Modifications  
 Spectral



## PMW 120

### Battlespace Awareness and Information Operations Program Office

#### Automatic Identification System (AIS): ACAT IVT

AIS collects commercial vessel data to improve track detection and identification, situational awareness, and safety of navigation. When aggregated with Maritime Domain Awareness data at the classified and unclassified level, AIS data plays a key role in maritime security. The data includes vessel identity, position, speed, course, destination, vessel call sign, weather, and other data of critical interest for navigation safety and maritime security.

**Status:** P&D

**Resource Sponsor:** N2/N6

**SSP:** 51Q0

**Developers:** L-3 Communications, *Orlando, FL*  
 SAAB Transponder Technologies, *Sterling, VA*  
**Source:** PMW 120

#### Cryptological Carry On Program (CCOP) Digital Receiver Technology (DRT): AAP

The CCOP DRT System can operate in a stand-alone mode or be incorporated into an existing Tactical Cryptologic System (TCS). The CCOP DRT System provides a solution that addresses dynamic changes in the commercial telecommunications industry.

**Status:** P&D

**Resource Sponsor:** N2/N6

**SSP:** 09R0

**Source:** PMW 120

#### Cryptological Carry On Program (CCOP) Special Fit Equipment (SFE): AAP

CCOP Special Fit Equipment (SFE) provides quick reaction and transportable Information Operations (IO) and Intelligence Surveillance and Reconnaissance (ISR) exploitation capabilities across Navy surface platforms. The CCOP SFE Program is comprised of Toxic Pen variants, Turbulentwave, Turbulentwave Kit, Red Falcon, and JSP/Kestrel.

**Status:** P&D

**Resource Sponsor:** N2/N6

**SSP:** 09R0

**Source:** PMW 120

#### Classic Reach: Project

Classic Reach is a mission strategy to Distributed Operations (DO). Classic Reach establishes a common sea/shore infrastructure and framework enabling real-time battle management and situational awareness of the Navy's SIGINT capabilities through enhanced data distribution while sustaining both newly implemented and existing legacy sensor grid infrastructure.

**Status:** Functional

**Resource Sponsor:** N2/N6, F3

**Developers:** Ticom Geomatics, Inc., *Austin, TX*  
**Source:** PMW 120

## Cryptological Carry On Program (CCOP) Legacy Subsystems: Project

CCOP Legacy Subsystems provide a transportable, quick reaction cryptologic capability to Navy air, surface, and subsurface units. This effort includes Operations and Support (O&S) and non-developmental subsystem technology refresh for CCOP Legacy Subsystems.

**Status:** Functional  
**Resource Sponsor:** N2/N6  
**SSP:** 09R0  
**Source:** PMW 120

## Cryptological Carry On Program (CCOP) Special Purpose Carry-On Subsystems (SPCS): AAP

CCOP Special Purpose Carry-On Subsystems (SPCS) provide quick reaction and transportable cryptologic capacity to improve Tactical Cryptologic/Information Warfare (IW)/Command and Control (C2W) exploitation capability across Navy air, surface, and subsurface platforms.

**Status:** P&D  
**Resource Sponsor:** N2/N6  
**SSP:** 09R0  
**Source:** PMW 120

## Distributed Common Ground System – Navy Increment 1 (DCGS-N Inc 1): ACAT IAC

DCGS-N Increment 1 is the Navy's legacy Intelligence, Surveillance, Reconnaissance, and Targeting (ISR&T) component of the DCGS Family of Systems (FoS), providing processing, exploitation, and dissemination services to operational and tactical fleet users. DCGS-N Increment 1 Block 2, currently fielding, builds upon earlier baselines to complete synchronization with CANES and provide enhancements related to SIGINT, IMINT, collection management, and Full Motion Video (FMV). The system provides classified General Service (GENSER) Secret and SCI analysis tools by integrating mature commercial off-the-shelf (COTS) and Government off-the-shelf (GOTS) products provided by industry, DoD, the Intelligence Community, Tactical Exploitation of National Capabilities (TENCAP), ONR, and others. Current applications include Generic Area Limitation Environment (GALE) (Defense Intelligence

Agency (DIA)), Analyst Work Station (Joint Deployable Intelligence Support System (JDISS)), and several joint Imagery Intelligence and Targeting tools developed and/or certified by the National Geospatial-Intelligence Agency (NGA).

**Status:** P&D  
**Resource Sponsor:** N2/N6  
**SSP:** 51N0  
**Developers:** BAE Systems, *Rancho Bernardo, CA*  
**Source:** PMW 120

## Distributed Common Ground System – Navy Increment 2 (DCGS-N Inc 2): ACAT IAC

DCGS-N Increment 2 is the Navy's next generation Intelligence, Surveillance, Reconnaissance, and Targeting (ISR&T) support solution for ingesting, processing, exploiting, fusing, and disseminating data from current and emerging Navy, Joint, and National sensors. DCGS-N Increment 2 will provide robust fusion and knowledge management, enhanced SIGINT, IMINT, and Full Motion Video (FMV) exploitation and facilitate two-way connection of Naval Operational Sensor capabilities and platforms to Naval, Joint, and Intelligence Community (IC) Enterprise. DCGS-N Increment 2 capability will improve the ability to detect and identify maritime threats, improve access to IC and ISR data for Maritime Forces, and allow for better IC visibility on Maritime collections requirements and operations. The program will leverage agile development to deliver fleet capability releases every 12-18 months to ensure flexibility in meeting emergent requirements and addressing fleet user priorities.

**Status:** EMD  
**Resource Sponsor:** N2/N6  
**SSP:** 51N0  
**Developers:** SSC Pacific, *San Diego, CA*  
**Source:** PMW 120

## Hazardous Weather Detection and Display Capability (HWDDC): AAP

HWDDC passively extracts data from the tactical scans of the SPS-48(E) and SPS-48(G) 3-D air-search radars and creates weather situational awareness products in near-real-time. Within the footprint of the radar, HWDDC provides data on precipitation intensity, storm cell movement, and wind speed and direction. This is the first capability of its kind and dramatically increases safety of flight as well as reducing risk to other shipboard operations, such as small boat operations, underway

replenishments, and various deck evolutions. Exploitation of rapidly changing effects are delivered directly to the weather forecaster, via SIPR URL to any network user (e.g., embarked Flag Staff or DESRON warfare commander), by geospatially-enabled KML format for overlay such as Google Earth for common mission planning, and over Ships TV to every aviation squadron Ready Room, bridge, and deck divisions for pre-flight awareness and maneuvering to avoid hazards (i.e., conditions which preclude arming or fueling aircraft). Not only is the data used on board the ship by aerographers to support the embarked staff, flagship, MOC headquarters ashore, and other ships in company (within the radar footprint), but the data is also transmitted to the Fleet Numerical Meteorological and Oceanographic Command, where it is ingested into numerical prediction models, thereby increasing the accuracy and fidelity of synoptic and forecast model outputs.

Designated as an abbreviated acquisition program by the Space and Naval Warfare Systems Command PEO C4I on May 22, 2013, the system is currently installed on nine aircraft carriers and six large-deck amphibious assault ships. Efforts to integrate the HWDDC into the Consolidated Afloat Networks Enterprise System (CANES) system integration has begun and scheduled for fleet release in FY19. Expect all CVN and large-deck amphibious assault ships to have CANES hosted HWDDC by FY24. Efforts to integrate the HWDDC into the new Dual Band Radar (DBR) on USS Ford (CVN-78) have also begun with integrated also scheduled for the FY18/FY19 time frame.

**Status:** P&D  
**Resource Sponsor:** N2/N6  
**SSP:** 84J0  
**Developers:** Basic Commerce and Industries, Inc., *Morristown, NJ*  
**SPAWAR PEO C4I & PMW 120, San Diego, CA  
**Source:** PMW 120**

## Intelligence Carry On Program (ICOP): ACAT III

ICOP provides the Navy with critical, game-changing Intelligence, Surveillance, Reconnaissance (ISR) capabilities to unit level platforms and expeditionary forces ashore. ICOP effectively extends the ISR enterprise and DCGS FoS to disadvantaged users and makes Navy organic sensor data community. These previously unavailable capabilities at the unit level include, direct downlink Full Motion Video (FMV) from a wide-range of sensors resulting in ninety percent improvement in Battlespace Awareness for the ship's Tactical Action

Officer (TAO). ICOP also provides multi-INT capabilities to group and unit level platforms with a focus on processing, exploitation, and dissemination of data ingested from airborne sensors and shipboard cameras to allow for near real-time streaming to higher headquarters. ICOP's multi-INT capabilities support onboard tactical decision-making as well as enable the timely dissemination of multi-INT products to fleet and national decision makers.

**Status:** P&D  
**Resource Sponsor:** N2/N6  
**SSP:** 51N0  
**Developers:** BAE Systems, *Rancho Bernardo, CA*  
**Source:** PMW 120

### Littoral Battlespace Sensing – Unmanned Undersea Vehicles (LBS UUV): ACAT IVM



The LBS UUV program provides a low-observable, continuous capability to characterize ocean properties that influence sound and light propagation for acoustic and optical weapon and sensor performance predictions. Critical to realizing undersea dominance, the system has delivered buoyancy-driven undersea gliders (LBS-G) and electrically powered, autonomous undersea vehicles (LBS-AUV) to enable anti-submarine, mine countermeasures, expeditionary, and naval special warfare planning and execution and persistent intelligence preparation of the environment (IPOE). Launched and recovered from Pathfinder (T-AGS 60)-class oceanographic survey vessels, LBS-G and LBS-AUV will provide persistent battlespace awareness. A submarine variant of the AUV, LBS-AUV(S) is planned for production in FY17. This AUV(S) vehicle will be deployed for use with submarines and operated by naval personnel. Additionally, LBS is a force multiplier for the T-AGS ships that further expands collection capabilities in contested areas to ensure access and reduce risk in fleet operations.

**Status:** P&D  
**Resource Sponsor:** N2/N6, N97  
**SSP:** 84L0  
**Developers:** Hydroid, Inc., *Pocasset, MA*  
 Teledyne Brown Engineering, *Huntsville, AL*  
 Teledyne Webb Research, *East Falmouth, MA*  
**Source:** PMW 120

### Maritime Domain Awareness (MDA)/Advanced Sealink Analysis (S2A): Project

MDA provides enhanced vessel tracking, improved fusion of vessel, people, company, cargo data and anomaly detection and alerting. It facilitates timely decision-making that enables early actions to neutralize threats to U.S. national security interests. MDA results from the discovery, collection, sharing, fusion, analysis, and dissemination of mission-relevant data, information, and intelligence in the context of maritime political, social, economic, and environmental trends within geographic regions. MDA requires a collaborative and comprehensive information and intelligence-sharing environment working across international and inter-agency borders.

The Navy MDA Concept signed in July 2011 emphasizes Navy maritime operations centers as the focal points for efforts to improve Navy MDA, leveraging reach-back intelligence hubs for analytical support. The Navy's MDA concept complements the 2012 Presidential Policy Directive (PPD)-18 on Maritime Security and the 2013 National MDA Plan, which direct integration of all-source intelligence, law-enforcement information, and open source data. Navy funding also supports MDA-focused analytical capabilities at the Office of Naval Intelligence and numerous Navy activities to close validated capability gaps.

Understanding the maritime challenges that the United States and its partners face and promoting progress in identifying and addressing these challenges, MDA seeks to enable decision makers by strengthening and enhancing the information sharing environment. MDA will accomplish this through the continued development of policies, enhanced situational awareness, intelligence integration, information-sharing and safeguarding capabilities to provide a maritime domain supporting prosperity and security within our domestic borders and around the world.

The DEIP system was shut down in December 2015 with the plan to transition a new MDA capability (S2A) into Increment 2 of the Distributed Common Ground System-Navy program at the JWICS level along with establishing a GENSER version of S2A at

the Office of Naval Intelligence.

**Status:** Functional  
**Resource Sponsor:** N2/N6  
**SSP:** 03C0  
**Developers:** Naval Research Laboratory, *Washington, D.C.*  
**Source:** PMW 120

### Maritime Integrated Broadcast Service (MIBS)/Joint Tactical Terminal – Maritime (JTT-M): Project

MIBS terminals provide Navy warfighters with the ability to receive and process assured Over-The-Air (OTA) Near-Real-Time (NRT) lethal threat intelligence. MIBS terminals filter and distribute special intelligence to multiple shipboard Tactical Data Processors (TDPs) on DDGs, CGs, LHA/D, and CVNs, and within the AEGIS Fleet supporting critical Navy and Joint Service BMD, EW, and ISR missions. MIBS is in post-FRP production and sustainment through 2025 due to cancellation of the Joint Tactical Radio System (JTRS) Ground Mobile Radio (GMR) and Airborne and Maritime Fixed Station (AMR) Integrated Broadcast Service (IBS) terminal variants. Three major efforts are currently underway: (1) Upgrade to fielded JTT-Maritime (JTT-M) systems to comply with NSA-mandated Crypto Modernization Initiative and Common Interactive Broadcast (CIB) waveform; (2) Upgrade to universal computer controller fielded as part of the JTT -M system configuration; and (3) Address Joint Service requirements for OTA and NRT IBS capability in the AEGIS BMD fleet in support of Navy and Joint service BMD missions afloat and ashore.

**Status:** Functional  
**Resource Sponsor:** N2/N6  
**SSP:** 72A0  
**Developers:** L-3 Communications, *Fairfax, VA*  
 Raytheon Systems, *St. Petersburg, FL*  
**Source:** PMW 120

### Meteorological Mobile Facility (Replacement) (MetMF(R)) Next Generation (NEXGEN): ACAT IVT

METMF(R) reached full operational capability (FOC) in July 2002 and deployed in support of Marine Corps operational forces during Operation Iraqi Freedom, during which operational deficiencies were identified and subsequently validated in several studies. On May 31, 2006, the Marine Corps Combat Development Command (MCCDC) approved an urgent need statement (UNS) for a



METOC environmental support system. The UNS identified a need for an expeditionary capability with a smaller footprint than METMF(R), as well as upgraded sensing, fusing, and communications capabilities.

The Space and Naval Warfare Systems Command Program Executive Office Command, Control, Communications, Computers, and Intelligence (PEO C4I) and Program Manager, Warfare (PMW 120) performed an analysis of alternatives to analyze Marine Corps METOC capabilities and gaps, and determined the most effective course of action for best satisfying Marine METOC requirements to be an upgraded or a next-generation METMF(R).

Two METMF(R) NEXGEN prototypes were developed, and the capability production document was approved in July 2010. METMF(R) NEXGEN passed its operational evaluation in September 2011, and was approved at Milestone C for full rate production in October 2011. METMF(R) NEXGEN officially met all requirements for initial operational capability in July 2013. The METMF(R) NEXGEN environmental collection and forecast system provides meteorological and oceanographic (METOC) support to Marine Corps and joint forces. The main functions of the system are to collect and analyze data, predict the future environment, tailor METOC products and information, mitigate the impact of, and exploit the future environment. METMF(R) NEXGEN is the replacement for the METMF(R) and provides greater mobility and operational flexibility in response to identified meteorological capability gaps. It was specifically designed for austere expeditionary operations. It is a fully integrated, FORCEnet compliant, tactical meteorological support system mounted on an armored HMMWV that supports all elements of the Marine Air Ground Task Force.

**Status:** O&S

**Resource Sponsor:** N2/N6

**SSP:** 84N0

**Developers:** Smith's Detection, Edgewood, MD  
SPAWAR PEO C4I & PMW 120, San Diego, CA  
**Source:** PMW 120

### Naval Integrated Tactical Environmental System-Next Generation (NITES-Next): ACAT III

Naval Integrated Tactical Environmental System-Next Generation is a software-centric solution that leverages Consolidated Afloat Networks Enterprise System (CANES) infrastructure and services on force-level ships (e.g., aircraft carriers and large-

deck amphibious assault ships). It is being developed to replace legacy meteorology and oceanography (METOC) capabilities in support of the Navy Meteorology and Oceanography Command's focus of collection, processing, exploitation and dissemination in support of fleet safety, integrated fires, and battlespace awareness. NITES-Next represents the core processing, exploitation, and dissemination tool of the METOC professional and provides a "one-stop shop" of tools and tactical decision aids required to generate decision products in support of full-spectrum naval operations. It is capable of consuming Open Geospatial Consortium (OGC)-compliant information and products, processed remotely sensed environmental information, as well as ocean and atmospheric models. This data is analyzed and fused with embedded tactical decision aids to expedite the METOC professional's forecasts of environmental conditions and impacts to fleet safety, weapons performance, sensor performance, and overall mission. NITES-Next is also capable of producing OGC-compliant products that can be shared/viewed on in-service and future Navy command and control systems, including Command and Control Rapid Prototype Continuum, Maritime Tactical Command and Control, and Distributed Common Ground System-Navy systems that will increase fleet-wide situational awareness. NITES-Next is currently fielding its second fleet capability release and is installed and operational on eleven force-level ships deployed globally.

**Status:** P&D

**Resource Sponsor:** N2/N6

**SSP:** 84R0

**Developers:** Forward Slope, Inc., San Diego, CA  
General Dynamics Information Technology, San Diego, CA  
SSC Pacific, San Diego, CA  
SPAWAR  
**Source:** PMW 120

### Navy Meteorology and Oceanography Analytic Node: Project

Formerly Primary Oceanographic Prediction System (POPS) and Oceanographic Information, this project is an inactive ACAT IAC program in sustainment. It provides for the maintenance and sustainment of the high performance computing and network infrastructure at Fleet Numerical Meteorology and Oceanography Command, Monterey, CA and the Naval Oceanographic Office, Stennis Space Center, MS. These systems are used primarily for predictive modeling of the world's oceans and marine atmosphere and dissemination of these products to the fleet.

This sustainment effort will be transitioned to PEO C4I and managed as a Project in FY17 per direction of ASN RDA. This project was formerly known as Primary Oceanographic Prediction System; Oceanographic Information System

**Status:** Functional

**Resource Sponsor:** N2/N6, E

**Source:** PMW 120

### Remote Sensing Capability Development (RSCD): Project

RSCD characterizes the ocean environment using a variety of remote sensing techniques that provide the capability to discriminate oceanographic phenomena from the natural environment. The Naval Oceanographic Office (NAVOCEANO) will refine and extend output oceanographic data and environmental characterization of the phenomena. NAVOCEANO will disseminate refined output in a report to the fleet.

**Status:** Exploratory

**Resource Sponsor:** N2/N6

**SSP:** 85G0

**Source:** PMW 120 IO Tear Sheet SEP 2016

### Ships Signal Exploitation Equipment Increment E (SSEE Inc E): ACAT III

SSEE Increment E is the legacy component of the Navy's afloat surface cryptologic system, providing the fleet with the ability to automatically detect, classify, and track Signals of Interest (SOI). It also offers direction finding and target geo-location services.

**Status:** O&S

**Resource Sponsor:** N2/N6

**SSP:** 54W0

**Developers:** Argon-ST/Boeing Company, Fairfax, VA  
**Source:** PMW 120

### Ships Signal Exploitation Equipment Increment F (SSEE Inc F): ACAT II

SSEE Increment F is the Navy's afloat surface cryptologic system, providing the warfighter with state of the art, net-ready Information Operations (IO) capabilities that can be operated locally or remotely. Two small footprint configurations, (V) 7 & 8, will meet dynamic mission requirements.

**Status:** P&D

**Resource Sponsor:** N2/N6



SSP: 54W0

Developers: Argon-ST/Boeing Company, Fairfax, VA  
Source: PMW 120 IO Tear Sheet SEP 2016

## Ships Signal Exploitation Equipment (SSEE) Modifications: ACAT III

SSEE Modifications is the latest technology advancement in IO building on the SSEE Increment F baseline to provide enhanced capability in acquiring and processing emerging threats, transforming the system into a precision targeting support system. Paragon enhances signal detection, processing, and transmission of information via radio/signal frequencies in alignment with objective requirements of SSEE Increment F. Graywing addresses the need to counter a unique and specific threat, the details of which are held at a higher classification.

Status: P&D

Resource Sponsor: N2/N6

SSP: 54W0

Source: PMW 120

## Spectral: Pre-ACAT (III Planned)

Spectral is the next-generation Information Warfare (IW) weapons system providing enhanced capabilities and interfaces to detect, classify, and track Signals of Interest (SOI) beyond currently fielded systems while also providing enhanced Information, Electronic, and Cyber Warfare (I/E/CW) capabilities including electronic attack (EA), cyber operations, and battle management aids. Spectral enhances multiple mission areas to deliver real-time signals throughout the Radio Frequency (RF) spectrum, in addition to focusing new technologies to support future including Electromagnetic Maneuver Warfare/Integrated Fires (EMW/IF). Spectral will be scalable, mission configurable, modular, and remotable in order to rapidly respond against new threats or capabilities while supporting National/Tactical Integration, interface with information-related systems, and combat systems to deliver improved exploitation capabilities across Navy combatant platforms.

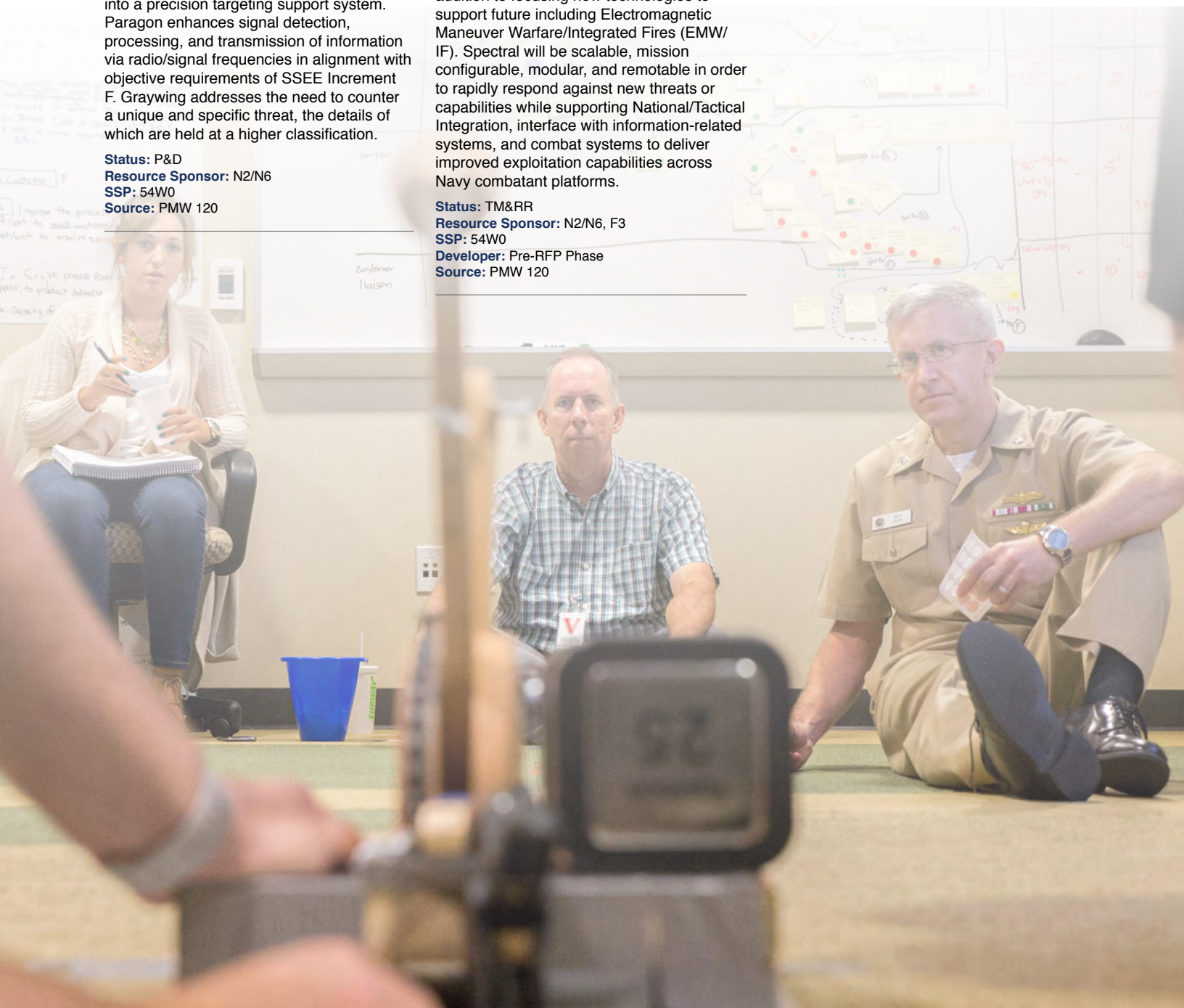
Status: TM&RR

Resource Sponsor: N2/N6, F3

SSP: 54W0

Developer: Pre-RFP Phase

Source: PMW 120





## Overview

The Information Assurance and Cyber Security Program Office provides cyber security products and services to ensure protection of Navy and joint information and telecommunications systems from hostile exploitation and attack through cryptographic, network and host-based security products.

### Programs/Projects

CND  
Cybersecurity Services  
Navy Cryptography and Key Management  
NCSA  
PKI  
RADMERC  
SHARKCAGE  
TKL



## PMW 130

### Information Assurance and Cyber Security Program Office

#### Computer Network Defense (CND): ACAT IVT

CND provides tools and applications to protect against, monitor, analyze, detect, and respond to unauthorized activity within Navy information systems and computer networks, cyber threats, and attacks against network vulnerabilities, and critical asset security controls. PEO C4I PMW 130 CND capabilities are installed on non-Consolidated Afloat Networks and Enterprise Services (CANES) afloat units, Fleet IT-21 Network Operations Centers (NOC), ONE-NET Theater Network Operations and Security Centers (TNOSC) and Local Network Service Centers (LNSC), and Broadcast Control Authorities (BCA). There is also a CND Suite at Navy Cyber Defense Operations Command (NCDOC), which is the Navy's CND Service Provider in support of naval operating forces. PEO C4I PMW 130 CND capabilities include: firewalls, Host Based Security System (HBSS), Intrusion Prevention System (IPS), Assured Compliance Assessment Solution (ACAS), event logging, security compliance scanning, spyware/malware and anti-virus protection, email scanning gateway, Virtual Private Networks (VPN), and web content filtering.

**Status:** O&S

**Resource Sponsor:** N2/N6

**SSP:** 32F0

**Developers:** SSC Atlantic, *Charleston, SC*  
SSC Pacific, *San Diego, CA*

Oak Ridge National Laboratories, *Oak Ridge, TN*  
MITRE Corporation, *San Diego, CA*

**Source:** PMW 130

#### Cybersecurity Services: Project

PMW 130 provides Cybersecurity Services in nine areas: cybersecurity architecture, cybersecurity policy, cybersecurity POR support, TEMPEST, cybersecurity Education, Training and Awareness (ET&A), Information Security (INFOSEC) web site, anti-virus, INFOSEC Technical Assistance Center (ITAC), and review of cybersecurity publications.

**Status:** N/A

**Resource Sponsor:** N2/N6

**SSP:** 32E0

**Developers:** Naval Research Laboratory, *Washington, D.C.*

Northrop Grumman, *Los Angeles, CA*

Raytheon, *Torrance, CA*

SSC Atlantic, *Charleston, SC*

**Source:** PMW 130

#### Navy Cryptography and Key Management: Project

The Cryptography and Key Management effort provides a dedicated focal point for the coordination of all DON research and development, as well as fielding and sustainment of stand-alone cryptographic solutions and key management components to fulfill current and future secure Naval voice and data systems requirements. This project consolidated previously approved projects, including the Cryptographic Modernization Program Office (CMPO), Cryptographic Products, Secure Voice, Electronic Key Management System (EKMS), and Key



Management Infrastructure (KMI).

**Status:** N/A

**Resource Sponsor:** N2/N6

**SSP:** 32E0

**Developers:** SSC Atlantic, *Charleston, SC*  
Raytheon (via USAF), *Fort Wayne, IN*  
Raytheon (via NSA), *Waltham, MA*  
Sierra Nevada Corporation, *Sparks, NV*  
Leidos (via National Security Agency (NSA)), *Fort Meade, MD*  
ViaSat (via NSA), *Carlsbad, CA*  
General Dynamics (via NSA), *Quincy, MA*  
SSC Pacific, *San Diego, CA*  
National Security Agency, *Fort Meade, MD*  
**Source:** PMW 130

(JTF-GNO) CTO 07-015, and DoDI 8520.2. PKI implements a secure infrastructure for the generation, management, and delivery of digital certificates for secure electronic transactions, cryptographic logon (CLO), and hardware certificate-based two-way authentication to networks, applications, and web servers; and secure email.

**Status:** Functional

**Resource Sponsor:** N2/N6

**SSP:** 32E0

**Developers:** SSC Atlantic, *Charleston, SC*  
Defense Manpower Data Center (DMDC), *Alexandria, VA*  
**Source:** PMW 130

RADMERC supports a wide variety of programs and is deployed on multiple force and unit level ships submarines, and a variety of shore commands. Other prominent programs supported by Radiant Mercury include Shared Early Warning (SEW), Blue Force Tracking (BFT), Consolidated Afloat Network Enterprise Services (CANES), Air Operations Centers, and Missile Defense Agency (MDA).

**Status:** P&D

**Resource Sponsor:** N2/N6

**SSP:** 51G0

**Developers:** Lockheed Martin, *Colorado Springs, CO*  
**Source:** PMW 130

## Navy Cyber Situational Awareness (NCSA): Pre-ACAT (III Planned)

NCSA provides trusted and comprehensive situational awareness of cyber operations (the cyberspace domain) via tailored near real-time visualizations of network health, vulnerabilities, and operational readiness. The system correlates data from multiple data sources to defend and operate a fully-interconnected network infrastructure, which is critical for early threat detection and timely decision making at tactical and operational levels of war.

**Status:** MSA

**Resource Sponsor:** N2/N6

**SSP:** 32F0

**Developers:** SSC Pacific, *San Diego, CA*  
Georgia Tech Research Institute, *Atlanta, GA*  
**Source:** PMW 130

## Public Key Infrastructure (PKI): Project

The Navy PKI effort is a component of the DoD PKI Joint ACAT IAM program led by NSA. PMW 130 is responsible for the Navy's portion of its implementation and initial acquisition. Navy Public Key Infrastructure (PKI) provides enhanced Identity Assurance (IDA) on the NIPRNet and SIPRNet in accordance with Homeland Security Presidential Directive (HSPD) 12, Joint Task Force-Global Network Operations

## Radiant Mercury (RADMERC): AAP

The RADMERC program facilitates sharing of critical information across security domains and among allied, coalition and inter-agency partners. The Radiant Mercury product provides cross-domain information sharing capabilities from Top Secret/Sensitive Compartmented Information (TS/SCI) to General Service (GENSER) and GENSER to Unclassified. The current operational baseline versions (v5.1.1) are certified for both Top Secret SCI and Below Interoperability (TSABI) and Secret and Below Interoperability (SABI) implementations and is on the Unified Cross Domain Solution Management Office's (UCDSMO) approved baseline. RADMERC provides a fully-automated, bi-directional, multiple input/output channel capability that can utilize various transfer protocols such as serial, TCP/IP, UDP, JMS, HTTPS, supports data streaming and file based transfers of data that can be sanitized, transliterated, downgraded, and guard classified formatted information to users at lower classification levels. RADMERC also provides a controlled interface to support processing of various unformatted data and imagery types by enforcing a reliable human review (semi-automated) work flow. Radiant Mercury currently has over 800 instantiations worldwide and supports all Services, Combatant Commands, and numerous federal, DoD and Intelligence Community agencies with a robust Cross Domain Transfer Solution. Within the Navy,

## SHARKCAGE: Pre-ACAT (III Planned)

SHARKCAGE is a global, federated Defensive Cyber Operations (DCO) enclave consisting of shore sensor nodes, DCO analysis workbenches, and analytic nodes. Utilizing one-way passive taps in a protected, out-of-band, classified environment, SHARKCAGE consolidates cyber event data from multiple platforms and networks, providing Navy DCO forces with a shared environment and common platform for integrated workflow, collaboration, and analysis. SHARKCAGE efficiently detects, correlates, and analyzes nation and non-nation state attacks against Maritime Cyber Key Terrain (CKT) and the Naval Networking Environment (NNE).

**Status:** MSA

**Resource Sponsor:** N2/N6

**SSP:** 32F0

**Developers:** SSC Pacific, *San Diego, CA*  
**Source:** PMW 130

## Tactical Key Loader (TKL): AAP

The TKL functionally replaces the KYK-13 for use in the field by Marine Corps and Naval Special Operations personnel. The TKL is SINCGARS compatible and will be fully interoperable with legacy, modern, and future ECUs. The TKL effort is a miniature device used to load and remove cipher keys used for secure voice and data communications while providing physical and electronic protections from enemy compromise.

**Status:** O&S

**Resource Sponsor:** N2/N6

**SSP:** 32E0

**Developers:** Harris Corporation, *Rochester, NY*  
**Source:** PMW 130

## Overview

The Navy Command and Control Systems Program Office provides operational and tactical command and control capabilities by integrating real-time and near real-time representations of tactical situations while including targeting support, chemical-biological warnings and logistics support for the Navy, Marine Corps, joint and coalition warfighters.

### Programs/Projects

ADSI  
C2P/CDLMS  
GBSP  
GCCS-M  
G-TSCMIS  
JEM  
JWARN  
Link 16 Network  
LMMT  
MFOM  
MTC2  
NILE  
NAMS  
NOSS  
NTCSS  
NAOC2



## PMW 150

### Command & Control Systems Program Office

#### Air Defense System Integrator (ADSI): Project

ADSI provides tactical situation display and Joint Range Extension capability for the Strike Force Commander in the Tactical Flag Command Center (TFCC) onboard the large decks (CVN, LHA and LHD). It provides full interfaces and display for Tactical Data Links for LCC platform and Command Shore Sites. Contract with Ultra Electronics awarded in October 2005.

**Status:** Functional  
**Resource Sponsor:** N2/N6  
**SSP:** 53C0  
**Developers:** Data Link Solutions, Wayne, NJ  
Northrop Grumman, San Diego, CA  
ViaSat, Carlsbad, CA  
**Source:** PMW 150

#### Command & Control Processor (C2P)/Common Data Link Management System (CDLMS): ACAT II

C2P is a multiple-link processor and JTIDS terminal controller for AEGIS and other ship classes with a combat direction system. Original C2P development used the standard Navy tactical computer (AN/UYK-43) and CMS-2 software language. C2P Rehost is a VME based implementation of the original UYK-43 C2P. The CDLMS, is a P3I effort of C2P, and improves data link management capabilities of shipboard operators incorporating an embedded Link 11 terminal. CDLMS is being upgraded with the Next

Generation C2P Increment.

**Status:** P&D  
**Resource Sponsor:** N2/N6  
**SSP:** 53C0  
**Developers:** Data Link Solutions, Wayne, NJ  
Northrop Grumman, San Diego, CA  
ViaSat, Carlsbad, CA  
**Source:** PMW 150

#### Global Biosurveillance Portal (GBSP): ACAT III (Army)

GBSP is a joint program administratively aligned under PMW 150 but under Army acquisition oversight. It is a web based enterprise environment that facilitates collaboration, communication, and information sharing in support of detection, management, and mitigation of man-made and naturally occurring biological hazards.

GBSP provides a set of tools and capabilities that facilitate the timely identification and detection of biological events in order to minimize operational impacts to the local and global events in order to minimize operation impacts to the local and global populations. GBSP provides an integrated suite of web based components designed to support public health officers, environmental officers, clinicians, physicians, and CBRN personnel as they maintain their situation awareness of local, regional and global biological threats to the public. GBSP leverages existing tools and technologies to provide users across multiple organization and disciplines with a centralized "one stop shop" for all of their Biosurveillance resources.



**Status:** P&D

**Resource Sponsor:** JPEO Chemical and Biological Defense

**Developer:** Johns Hopkins University, Applied Physics Lab

**Source:** PMW 150 – DEF C2

## Global Command and Control System – Maritime (GCCS-M): ACAT IAC



GCCS-M is the maritime implementation of the Department of Defense GCCS family of systems. It supports decision making at all echelons of command with a single, integrated, scalable C4I (command, control, communications, computers, and intelligence) system. The C4I system fuses, correlates, filters, maintains, and displays location and attribute information on friendly, hostile, and neutral land, sea, and air forces, integrated with available intelligence and environmental information. It operates in near real-time and constantly updates unit positions and other situational-awareness data. GCCS-M also records data in databases and maintains a history of changes to those records. System users can then use the data to construct relevant tactical pictures using maps, charts, topography overlays, oceanographic overlays, meteorological overlays, imagery, and all-source intelligence information coordinated into a common operational picture that can be shared locally and with other sites. Navy commanders review and evaluate the general tactical situation, plan actions and operations, direct forces, synchronize tactical movements, and integrate force maneuver with firepower. The system operates in a variety of environments and supports joint, coalition, allied, and multinational forces. GCCS-M is implemented afloat and at select ashore fixed command centers.

The GCCS-M program is designated as an Acquisition Category IAC evolutionary acquisition program, with development and implementation progressing in increments. The acquisition strategy calls for each

GCCS-M increment (major release) to proceed through acquisition milestone reviews prior to fielding. The program is operating in two simultaneous acquisition increments: Increment 1 (GCCS-M Version 4.0 and prior) is in deployment/sustainment; and Increment 2 (GCCS-M Version 4.1) completed a fielding decision review (FDR) on August 16, 2011, resulting in authorization of full fielding of Increment 2 force-level (e.g., aircraft carriers) and unit-level (e.g., guided-missile cruiser) configurations.

GCCS-M has approximately 1,870+ users on ships, submarines, and shore stations. The newest version, GCCS-M (V) 4.1 is a software-only variant being fielded on the Consolidated Afloat Networks and Enterprise Services (CANES). In 2014, it successfully underwent its Initial Operational Testing and Evaluation (IOT&E) on USS MILIUS (DDG-69) and is now operating at sea as part of the Battle Force.

**Status:** O&S

**Resource Sponsor:** N2/N6

**SSP:** 51B1

**Developer:** SPAWAR, San Diego, CA

**Source:** PMW 150

## Global-Theater Security Cooperation Management Information System (G-TSCMIS): ACAT III

The G-TSCMIS Program is an Office of the Secretary of Defense (OSD) initiative to develop and deploy a common web-based, centrally hosted Management Information System (MIS) that will serve as the information focus point for the Nation's Security Cooperation (SC) efforts by providing decision makers, SC planners and other users with the ability to view, manage, assess, and report SC activities and events. G-TSCMIS will consolidate, improve upon and is intended to replace all existing TSCMIS solutions hosted at and supporting more than 20 Department of Defense (DoD) Services, Agencies and Combatant Commands (CCDRs). It will provide a comprehensive picture of whole-of-government SC activities, and will contribute to planning more effective cooperative security activities to align or meet desired outcomes in support of SC end states. The program is an evolutionary rapid Information Technology (IT) acquisition pilot program, as described in FY 2010 National Defense Authorization Act (NDAA) Section 804 that provides users at every user command with greater capability through several iterations and releases that are developed and implemented over time. The Department of Navy (DON) was assigned acquisition lead

for the effort by Deputy Secretary of Defense (DEPSECDEF).

G-TSCMIS is a fully interoperable component of Adaptive Planning and Execution (APEX) and the DoD Joint C2 (JC2) Capability. The effort will support the strategic planning of CCDRs by providing access to reports of programs, activities, events, funding, assessments, and status of achieving defined end states. G-TSCMIS will provide visualization, assessment, reporting, and data management throughout the conduct of SC activities planning and execution phases. Information from the SC activities will be binned by separate SC programs; budget lines/funding streams, equipment drawdown, etc. This will enable users at the tactical level to focus on specific programs, participating forces, events, and activities, while users at the strategic level will be able to access summary reports of geographic regions, resource requirements, or total expenditure of funds by source. G-TSCMIS support to DoD's SC reporting requirements is mandated by federal law for many SC programs and activities. To adhere to U.S. regulations, G-TSCMIS reports will be tailored to include programs, events, and activities by category, geographical areas, assessments, U.S. staffing levels, and sources of funding.

G-TSCMIS interfaces with other systems, such as Joint Training Information Management System (JTIMS), Joint Capability Requirements Manager (JCRM) and Defense Readiness Reporting System (DRRS). G-TSCMIS must also be interoperable with the other U.S. Government foreign assistance and international cooperation information systems. G-TSCMIS will allow decision makers and analysts to identify redundant investments, plan more effective engagements, and find gaps and opportunities for building more capable partners. The program uses multiple, rapidly executed releases of capability beginning with a Milestone B.

**Status:** P&D

**Resource Sponsor:** DSCA

**Source:** PMW 150

## Joint Effects Model (JEM): ACAT III (Army)

JEM is a joint program administratively aligned under PMW 150 but under Army acquisition oversight. It is a web based software application that supplies the DoD with the one and only accredited tool to effectively model and simulate the effects of Chemical, Biological, Radiological and Nuclear (CBRN) weapon strikes and



incidents. JEM is capable of providing all Warfighters with the ability to accurately



model and predict the time phased impact of CBRN and Toxic Industrial Chemical/Material (TIC/TIM) events and effects. JEM supports planning to mitigate the effects of Weapons of Mass Destruction (WMD) and to provide rapid estimates of hazards and effects integrated into the Common Operational Picture (COP). JEM is available for Foreign Military Sale (FMS).

JEM provides Warfighters with the DoD accredited modeling capability to predict high fidelity downwind hazard areas and effects associated with the release of CBRN and Toxic Industrial Hazards (TIH) into the environment. It allows for the incorporation of the impacts of weather, terrain, and material interactions into the downwind prediction, provides enhanced situational awareness of the battle space and provides near real-time hazard information to influence and minimize CBRN and TIH effects on current operations which saves lives.

**Status:** P&D  
**Resource Sponsor:** JPEO Chemical and Biological Defense  
**Developers:** Northrop Grumman, San Diego, CA  
 General Dynamics, Fairfax, VA  
**Source:** PMW 150 – DEF C2

### Joint Warning and Reporting Network (JWARN): ACAT III (Army)

JWARN is a joint program administratively aligned under PMW 150 but under Army acquisition oversight. It is a computer based application integrating Chemical, Biological, Radiological, and Nuclear (CBRN) data and facilitates sensor information into Joint and Service C2 systems for battlespace situational awareness. JWARN incorporates sensor alert information and CBRN observation reports from the field, makes a plot of the hazard area, provides overlays for display on the Common Operational Picture (COP) and generates the warning message to units. JWARN replaces the manual processes of incident reporting, hazard plot

generation, and warning of affected forces. The JWARN is a joint automated CBRN warning, reporting, and analysis software tool that resides on joint and Service command and control systems including the Global Command and Control System (GCCS)-Army, GCCS-Joint, GCCS-Maritime, and Command and Control Personal Computer/ Joint Tactical Common Workstation. JWARN reduces the time from incident observation to warning to less than two minutes, enhancing situational awareness throughout the area of operations, and supporting Warfighter battle management tasks.

**Status:** P&D  
**Resource Sponsor:** JPEO Chemical and Biological Defense  
**Developers:** Northrop Grumman, San Diego, CA  
**Source:** PMW 150 – DEF C2

### Link 16 Network: ACAT II

Link 16 Network consists of Maintenance Support and Modernization of JTIDS and MOS and Fielding of DNM.

**Status:** O&S  
**Resource Sponsor:** N2/N6  
**SSP:** 53C0  
**Developers:** Data Link Solutions, Wayne, NJ  
 Northrop Grumman, San Diego, CA  
 ViaSat, Carlsbad, CA  
**Source:** PMW 150

### Link Monitoring Management Tool (LMMT): ACAT III

LMMT provides the means to plan, initiate, monitor, and dynamically manage a distributed multi-tactical data link (TDL) environment to facilitate critical information exchange among battlespace participants. LMMT enables the Navy JICO to perform tasks in support of the joint forces commander-designated component/ functional commander(s) to include developing the multi-TDL architecture (MTA), executing and managing multi-TDL operations in support of joint task force (JTF) objectives, supporting planned and emergent JTF information exchange requirements, responding to network conflicts and outages, and conducting multi-TDL network analysis.

**Status:** R1 P&D and R2 EMD  
**Resource Sponsor:** N2/N6  
**SSP:** 53C0  
**Developers:** Data Link Solutions, Wayne, NJ  
 Northrop Grumman, San Diego, CA  
 ViaSat, Carlsbad, CA  
**Source:** PMW 150

### Maintenance Figure of Merit (MFOM): Project

MFOM provides the means for the maintenance community to support the transition from static readiness snapshots in a stand-alone readiness reporting system to a net-centric, information sharing, readiness management system. To support capabilities-based planning, MFOM readiness metrics are based on Mission Essential Tasks (METs) and answers the fundamental question of "Are organizations' equipment ready today to execute its assigned mission with acceptable risk and bring the expected capabilities to the joint fight?" To get to this point, equipment readiness management and investment decisions must be seamlessly integrated while objectively and timely supported. MFOM is envisioned to be a widely deployed, integrated fleet equipment material condition reporting software application for all Navy organizations, which uses updated computer hardware and software products, to provide a more objectively-based readiness reporting system. This system should provide clear numerical and color augmented readiness indices, recommend prioritized maintenance actions to improve readiness indices, and relate readiness to cost. It must support the traditional warfare area based readiness reporting, the newer Department of Defense Readiness Reporting System (DRRS) that uses Mission Essential Tasks (METs), and be adaptable enough to support future changes in readiness reporting. This web based application supports ships and shore based units, is adaptable to various communications technologies, and minimizes the introduction of new equipment or reporting requirements. In addition, MFOM should leverage existing applications and systems, help to eliminate inadequate or redundant applications and systems, and accommodate anticipated future functionality.

**Status:** Functional  
**Resource Sponsor:** N096  
**Developers:** CACI, Norfolk, VA  
**Source:** PMW 150

### Maritime Tactical Command & Control (MTC2): Pre-ACAT (III Planned)

MTC2 is the next generation C2 solution that will deliver Battle Management Aids (BMA) and Maritime Planning Tools (MPT) to provide dynamic monitoring, assessing, planning, and directing of maritime operations in support of the commanders scheme of maneuver. MTC2 will leverage

System of Services (SoServ) to produce “composable” capabilities enabling machine-to-machine tasking (“composability”) and predictive analytics for human-machine teaming. MTC2 will support both Mission Planning (MP) and enable real-time mission execution.

MTC2 completed an analysis of alternatives in the third quarter of FY 2013, with the recommendation to satisfy maritime C2 requirements, as defined in the MTC2 Initial Capabilities Document, with the addition of leveraging NTC as an expanded data source. In FY 2014, MTC2 was directed to realign the development and implementation strategy to field in alignment with CANES, Distributed Common Ground System-Navy Inc.2, and NITES-NEXT. In FY 2016 OPNAV directed a Strategic Shift and descope Situational Awareness/COP requirements out of MTC2. PEO C4I is preparing to execute an initial build decision for a prototype BMA in FY 2018 and expects to re-enter the acquisition process for formal approval as a program of record in FY 2019.

**Status:** MSA  
**Resource Sponsor:** N2/N6  
**SSP:** 51B2  
**Developers:** SSC Pacific, San Diego, CA  
**Source:** PMW 150

## NATO Improved Link Eleven (NILE): Project

The NILE Project is an international cooperative project among a group of seven participating NATO nations (i.e., Canada, France, Germany, Italy, Spain, United Kingdom, and United States of America) to design, build and document the Link 22 system. Link 22 is designed to replace Link 11, which officially retires in 2025. Link 22 provides beyond line of sight (BLOS) interoperability for United States and Allied nations. It complements Link 16 by providing a 1000nm range over as many as 4 networks with auto relay between Link 22 networks and data forwarding between Link 16 and Link 22. Link 22 significantly extends the range of C2 without satellite or persistent airborne relay.

**Status:** Functional  
**Resource Sponsor:** NILE Steering Committee (SC)  
**Developers:** Data Link Processor (DLP): Various, National Responsibility  
 System Network Controller (SNC): Northrop Grumman, San Diego, CA  
 LLC 7M (COMSEC): Raytheon Corp., El Segundo, CA  
 Signal Processing Controllers (SPCs)/Radios: Various, National Responsibility  
**Source:** PMW 150/NILE PMO

## Naval Aviation Maintenance System (NAMS): Pre-ACAT (III Planned)

NAMS is the replacement for the Naval Aviation Logistics Command Management Information System (NALCOMIS) Optimized Organizational Maintenance Activity (OOMA) and Optimized Intermediate Maintenance Activity (OIMA). As naval aviation moves into a future dominated by smart weapon systems, electromagnetic maneuver and cyber warfare, distributed lethality and predictive analytics, NAMS provides: 1) Deployable (connectivity and operational across the globe); 2) Integrated and Interoperable (up line reporting for analytics and seamless services to other interfaced systems); 3) Product-centric (ready to integrate into a Product Lifecycle Management (PLM)-centric ecosystem); 4) Streamlined (to enable warfighters to accomplish tasks as efficiently as possible); 5) Cyber-secure and cyber-insulated (to decrease exposure to IT controls at the network/server level); 6) Agile and maintainable (to allow easy corrections and updates to business processes and data models without coding or software deployments); 7) Affordable IT operations compatible with the other deployed logistics business systems.

**Status:** MSA  
**Resource Sponsor:** N4  
**Source:** PMW 150

## Naval Operational Supply System (NOSS): Pre-ACAT (III Planned)

The NOSS successor to NTCSS R-Supply, delivers an enterprise and field level capability to enable financially accountable supply operations. The concept includes planning, procurement, and physical/financial accountability of material and property across all commodities and communities. NOSS provided enterprise wide automation of supply, inventory and financial functions, using asynchronous, bi-directional data transport between enterprise and field level environments. NOSS also serves as a financial feeder to the general ledger. It will facilitate continuous business process reengineering and compliance with statutory, regulatory and policy mandates. NOSS will further optimize business practices at the tactical echelon (field level), with enterprise support activities employing an interoperable service-oriented architecture (SOA). It will aggregate and analyze operational data within a business intelligence (BI) framework

to enable historical and predictive common operating pictures for logistics and readiness performance requirements. When fielded, NOSS will deploy globally to approximately 150,000 users at 700 surface, submarine, expeditionary, aviation and shore support activities.

**Status:** MSA  
**Resource Sponsor:** N4  
**Source:** PMW 150

## Naval Tactical Command Support System (NTCSS): ACAT IAC



NTCSS is the combat logistics support information system used by Navy and Marine Corps commanders to manage and assess unit and group material and personnel readiness. NTCSS provides intermediate and organizational maintenance, supply, and personnel administration management capabilities to aviation, surface, and sub-surface operational commanders. NTCSS also supports network-centric warfare by integrating logistics information to complement the tactical readiness picture for operational commanders. Business process improvements are developed and implemented under sponsorship of functional and fleet managers. Ongoing initiatives include:

- Migrating to an open service-oriented architecture
- Using Navy Enterprise Data Centers
- Converting Navy and Marine Corps aviation squadrons to an NTCSS Virtual Environment, significantly reducing hardware requirements
- Centralizing visibility of Navy assets (Operational Supply)
- Streamlining aviation maintenance repair operations (Beyond Capability Maintenance Interdiction and Global Individual Components Repair List management)

NTCSS supports Navy and Marine Corps aviation through the Naval Aviation Logistics Command Management Information System Optimized Organizational Maintenance



Activity (NALCOMIS OOMA).

OOMA supports the Naval Aviation Maintenance Program (NAMP) and 3M functions at Navy and Marine Corps aircraft squadrons, aircraft intermediate maintenance activities aboard aircraft carriers, amphibious assault ships, and at Marine Aviation Logistics Squadrons (MALS), totaling 335 sites worldwide as of March 2016. NALCOMIS-OOMA provides several key capabilities including: automating process of downloading failure data from aircraft; automating aircraft logbooks; automating the collection and reporting of component identification; utilizing available electronic technical data; managing aircraft and component configuration; and tracking life usage indicators (LUI) for life limited components. OOMA Foundation tier (for example, data from a squadron) data are replicated up-line through 53 Mid-Tier servers (that perform a “compress and forward” function) located across the country and aboard ships, up to the Top Tier servers at SPAWAR Systems Center at Norfolk and NAVAIR Patuxent River, MD. The NAVAIR Top Tier Server then sends data to an Oracle “translation” server which then sends it to the Aviation Data Warehouse called DECKPLATE (Decision Knowledge Programming for Logistics Analysis and Technical Evaluation).

As a result, the Navy and Marine Corps will realize greater operational efficiency and lower total ownership costs.

**Status:** O&S

**Resource Sponsor:** N4

**Developers:** Advanced Enterprise Systems, Norfolk, VA  
CACI, Norfolk, VA

**Source:** PMW 150

## Navy Air Operations Command & Control (NAOC2): Project

NAOC2 supports alignment of the Navy to the Air Force programs delivering air operations command and control to the joint warfighter. NAOC2 provides task force commanders the ability to plan, disseminate, monitor, and execute theater air battles. NAOC2 capability is provided by the Theater Battle Management Core Systems (TBMCS). TBMCS is an Air Force Acquisition Category III program of record with joint interest. TBMCS is integrated and fielded to enable the air planner to produce the joint air tasking order and air space control order, which give afloat battle staffs and maritime operations centers the capability to lead, monitor, and direct the activities of assigned or attached forces during large-scale combined joint service operations with a joint force air and space component commander (JFACC).

TBMCS 1.1.3 is in the operations and sustainment phase. Software and security upgrades are fielded as they become available. The NAOC2 program is integrated and tested within the Navy operational environment for fielding to force-level ships (e.g., aircraft carriers, amphibious assault ships, and command ships), maritime operations centers, and selected training sites. The Air Force’s Command and Control Air and Space Operations Suite and Command Control and Information Services programs of record will replace TBMCS. The Air Force will develop these programs in a service-oriented architecture environment, and the Navy will migrate into these programs, which will reside in the Consolidated Afloat Networks and Enterprise Services environment.

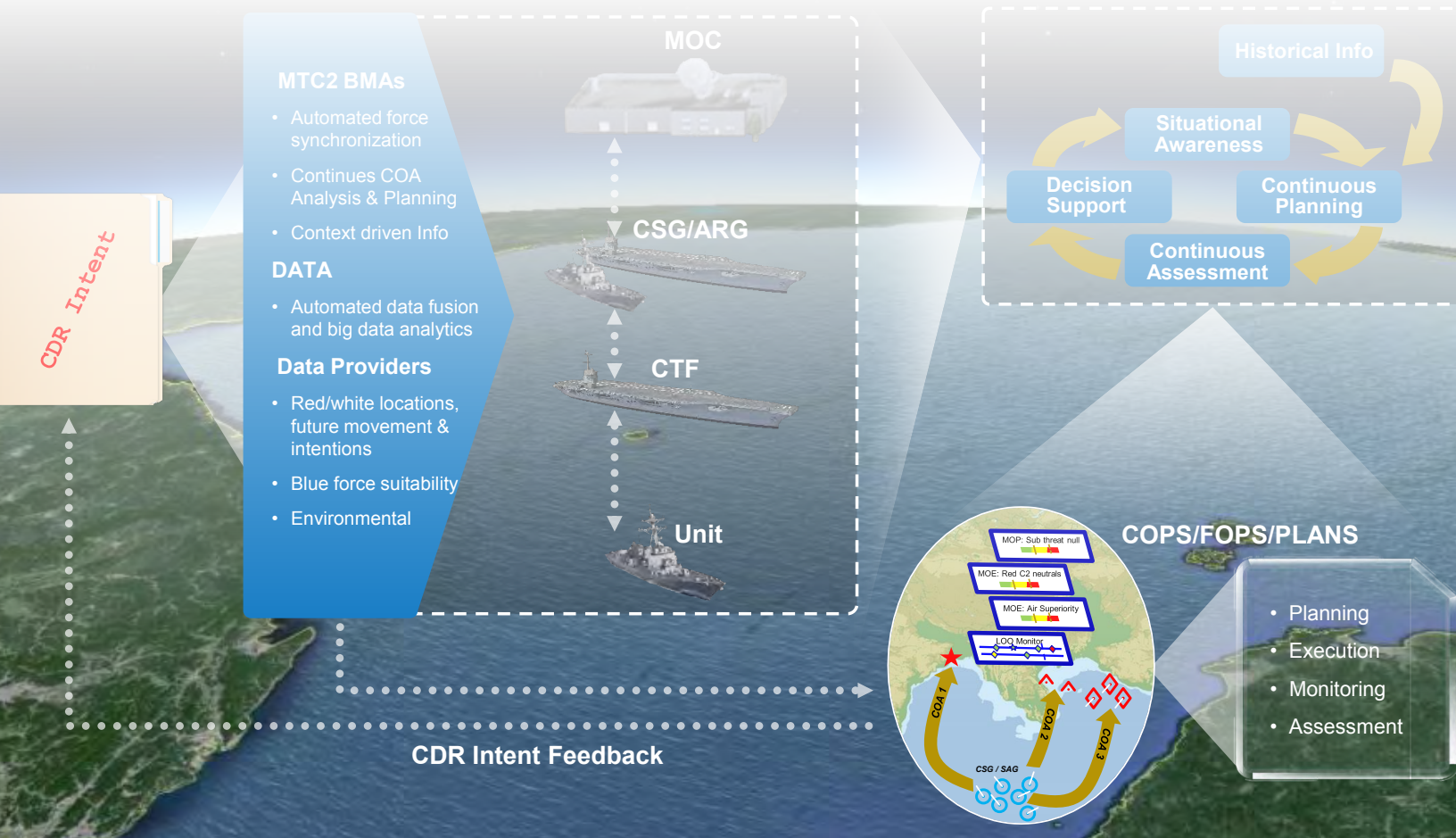
**Status:** Functional

**Resource Sponsor:** N2/N6

**SSP:** 51B3

**Developers:** Lockheed Martin, Colorado Springs, CO  
SSC Pacific, San Diego, CA

**Source:** PMW 150





## Overview

The Tactical Networks Program Office provides operationally effective and cost-efficient networks for Navy tactical forces. It delivers integrated wide area, local networking and foundation computing systems to support a robust network of well-informed, geographically dispersed Navy, joint service and coalition forces.

### Programs/Projects

ADNS  
CANES  
CENTRIXS-M  
ISNS  
SCI Networks  
SubLAN



## PMW 160

### Tactical Networks Program Office

#### Automated Digital Network System (ADNS): ACAT II

ADNS is the key enabler for delivering net-centric capabilities that depend upon robust, dynamic, adaptable, survivable, and secure communications. ADNS is the shipboard network interface that enables connectivity between the ship's internal network and the outside world via radio frequency (RF) spectrum and landline when pier-side. ADNS is also installed in Navy network operations centers (NOCs), enabling the NOCs to transmit and receive voice and data to and from ships. ADNS provides capability that enables unclassified, secret, top secret, and various joint, allied, and coalition services to interconnect to the Defense Information Systems Network.

ADNS Increment I combined data from different enclaves and transmits across available communications paths. ADNS Increment II added the capability to manage traffic from multiple enclaves simultaneously over multiple transit paths, including RF and terrestrial links, but still did not satisfy the fleet's need for higher throughput. Increased throughput and converged Internet Protocol (voice, video, and data) capabilities were delivered to the fleet with the deployment of Increment IIa/IIb. ADNS Increment III brings a protected core, reducing the exposure to cyber warfare network infiltration. It supports 25 megabits per second (Mbps) aggregate throughput for submarines and unit-level ships and 50 Mbps aggregate throughput for force-level ships. ADNS Increment III is a key enabler of the Navy's counter anti-access and area-denial capability.



In FY 2005, all active ships and ashore network operations centers facilities were equipped with either ADNS Increment I or II; additionally, all active submarines and broadcast control authority facilities were equipped with Increment I. In FY 2006, ADNS Increment IIa installations began on aircraft carriers, large-deck amphibious assault ships, and fleet commander flagships (force-level ships). In FY 2007, ADNS Increment IIb installations began on unit-level ships (e.g., guided-missile cruisers and destroyers). In FY 2008, select airborne platforms were incorporated into ADNS, bringing network connectivity to additional fleet assets. Increment III low-rate initial production began in FY 2009. ADNS Increment III reached initial operational capability in FY 2010. Ashore NOC installs were completed in FY 2010. Increment III will be installed on all ships and submarines



and their respective shore facilities. ADNS Increment III is planned to reach full operational capability in FY 2021.

**Status:** P&D

**Resource Sponsor:** N2/N6

**SSP:** 23G0

**Developers:** SPAWAR, PEO C4I and SSC Pacific, San Diego, CA

**Source:** PMW 160

## Consolidated Afloat Networks and Enterprise Services (CANES): ACAT IAC



CANES is the Navy's Program of Record (POR) to replace and modernize existing afloat networks with the necessary hardware, software and enterprise services infrastructure to enable information warfare from and within the tactical domain. CANES provides complete infrastructure inclusive of hardware, software, processing, storage and end user devices for the Unclassified, Coalition, Secret and Sensitive Compartmented Information (SCI) enclaves for all basic network services (email, web, chat, collaboration) to a wide variety of Navy surface combatants, submarines and maritime operations centers. Hosted applications and systems inclusive of Command and Control, Intelligence, Surveillance and Reconnaissance, Information Operations, Logistics and Business domains require the CANES infrastructure to operate in the tactical environment. Integrating these applications and systems is accomplished through the Application Integration process, which is used to evaluate and validate compatibility between CANES and the Navy-validated applications, systems and services. Specific programs, such as Distributed Common Ground System - Navy (DCGS-N), Global Command and Control System – Maritime (GCCS-M), Naval Tactical Command Support System (NTCSS), and Undersea Warfare Decision Support System (USW-DSS), are dependent on CANES to field, host, and sustain their capability because they no longer provide their own hardware. In addition, CANES

requires that Automated Digital Network System (ADNS) field prior to or concurrently with CANES due to the architectural reliance between the two programs.

CANES is programmed to develop regular technical updates to its hardware and software baselines to ensure that no cybersecurity vulnerabilities exist due to hardware and software obsolescence. CANES is based on the overarching concept of reducing the number of afloat networks and providing enhanced efficiency through a single engineering focus on integrated technical solutions. This will allow for streamlined acquisition, contracting, and test events, and significant lifecycle efficiencies through consolidation of multiple current configuration management baselines, logistics, and training efforts into a unified support structure.

CANES Full Deployment Decision (FDD) was achieved October 2015, authorizing the program to field its target inventory objective. IOC was achieved in FY14 with the completion of installation on the USS McCampbell (DDG 85) in October 2013. As of December 2016, CANES installations have been completed on 45 ships and submarines to include 4 CVNs, 3 LHDs, 2 CGs, 27 DDGs, 2 LSDs, 4 SSBNs, 1 SSN and 2 TTEs.

**Status:** O&S

**Resource Sponsor:** N2/N6

**SSP:** 51R0

**Developers:** Naval Undersea Warfare Center, Newport, RI

SSC Atlantic, Charleston, SC

SSC Pacific, San Diego, CA

**Source:** PMW 160

## Combined Enterprise Regional Information Exchange System – Maritime (CENTRIXS-M): ACAT III

CENTRIXS-M is a combination of global networks permitting effective and efficient information sharing of Secret Releasable information and below, between coalition partners in the tactical and operational environment. CENTRIXS-M supports combatant commands throughout the world, including the U.S. Pacific, Central and European commands. CENTRIXS-M is also used extensively to support exercises like RIMPAC, or Rim of the Pacific, which can involve more than 14 countries.

**Status:** O&S

**Resource Sponsor:** N2/N6

**SSP:** 51H1

**Developers:** SPAWAR, PEO C4I and SSC Pacific, San Diego, CA

**Source:** PMW 160

## Integrated Shipboard Network System (ISNS): ACAT II

ISNS provides Navy ships and submarines with reliable, high-speed SECRET and UNCLASSIFIED Local Area Networks (LANs), provides network infrastructure (switches, routers, and drops to the PC), hosts a variety of C4ISR applications (e.g. NTCSS, GCCS-M, DCGS-N, CND, DMS, NSIPS, N/AVMPS, TBMCS, and TTWCS), and enables real-time information exchange within the ship and between afloat units, Component Commanders, and fleet commanders. ISNS provides the networking infrastructure needed to operate these C4ISR applications. Reductions in network installations negate investments in these applications and creates interoperability problems between software variants. Deferring network upgrades directly impacts the CANES program by pushing the fielding schedule to the right and increases support costs to keep legacy networks operational. Quantities indicate the number of End-of-Life ISNS networks on ships that will be upgraded to the Early Adopter ISNS variant, as well as submarine network upgrades to SubLAN Increment I to increase survivability. FY13 and out quantities only represent SubLAN upgrades. Reduction in installations drives unprogrammed production and sustainment costs for the networks and the C4ISR applications. End-of-life networks cannot support the addition of any new applications or capabilities. Operational risk increases due to reduced hardware availability and reliability.

**Status:** O&S

**Resource Sponsor:** N2/N6

**SSP:** 51H0

**Developers:** SPAWAR PEO C4I and SSC Pacific, San Diego, CA

**Source:** PMW 160

## Sensitive Compartmented Information Networks (SCI Networks): ACAT III

The SCI Networks system is a mission essential key element of the "kill chain" of communications. The SCI Networks system provides secure electronic mail, chat, web browsing, video, audio and other common network enterprise services. In addition, the SCI Networks system provides a conduit for Special Intelligence (SI) as well as other SCI traffic. The SCI Networks system supports the transfer of Joint Command and Control (JC2), Situational Awareness, Battle Damage Assessments, Indications and Warnings (I&W) plus additional Cryptologic information.



The SCI Networks system provides message services to end users and battle planners on a Combined Joint Task Force (CJTF) staff with a flexible, Commercial Off-The-Shelf (COTS) based, network-centric application layer system that bridges communication networks and also provides interoperability with other United States critical networks (e.g., Joint Worldwide Intelligence Communications System [JWICS]. The Naval Computer and Telecommunications Area Master Station (NCTAMS) SCI Network Operations Center (NOC) serves as the main communications gateway between the shore and ships.

**Status:** O&S

**Resource Sponsor:** N2/N6

**SSP:** 08G0

**Developers:** SPAWAR PEO C4I and SSC Pacific, San Diego, CA

**Source:** PMW 160

### **Submarine Local Area Network (SubLAN): ACAT III**

SubLAN provides Navy submarines with reliable high-speed secret, sensitive but unclassified and top secret Local Area Networks. When the SubLAN network is combined with other subsystems, it delivers an end-to-end net-centric warfare capability. AN/USQ-177 Variants (V) 1, 2, 3, 4, 5, 7 provide network infrastructure and the Common PC Operating System Environment, which provides the server and operating system environment for other applications such as Non-Tactical Data Processing System.

**Status:** O&S

**Resource Sponsor:** N2/N6

**SSP:** 51H0

**Source:** PMW 160





## Overview

The Communications and GPS Navigation Program Office provides and supports interoperable, cost-effective Position, Navigation and Timing services, assured and resilient communications, and GPS navigation to enable information warfare capabilities for maritime forces.

### Programs/Projects

Air Navigation  
AN/SMQ-11 ESRP  
BFTN  
CBSP  
CWSP  
DMR  
GBS  
GPNTS  
GPS Modernization  
JALN-M  
NSLC-A  
Air NAVWAR  
Sea NAVWAR  
NMT  
NTCDL  
PRP  
TDMA TIP



## PMW/A 170

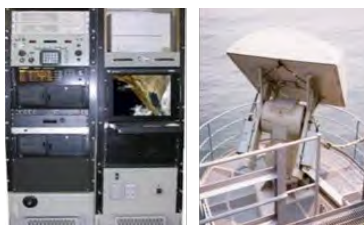
### Communications and GPS Navigation Program Office

#### Air Navigation: Project

Air Navigation explores new and advanced Anti-jam (AJ) and GPS capabilities to counter the proliferating threat to GPS. Air Navigation tests and conducts demonstrations of potential material solutions for size, weight, and power challenged platforms. The project will begin integrating GPS AJ capability into UH-1Y and AH-1Z helicopters, and MQ-8B and M1-8C Fire Scout Unmanned Aerial Systems (UAS) in FY18.

Status: N/A  
Resource Sponsors: N2/N6E  
SSP: 84A0  
Source: PMW/A 170

#### AN/SMQ-11 Environmental Satellite Receiver Processor Program (ESRP): ACAT IVT



AN/SMQ-11 is the ship component of ESRP used to receive and process remotely sensed data from the Defense Meteorological Satellite Program satellites, Defense Weather Satellite System, Joint Polar Satellite System, Geostationary Operational Environmental

Satellites, and other various international satellite programs. These systems provide the Strike Group Oceanography Teams (SGOTs) and Shore Commands with the capability to download geostationary and polar orbiting critical raw data directly from these national and international METOC satellite families. This data may be tailored by the end user to provide the Warfighter with secure, high-resolution visual and infrared imagery for mission planning and execution. The current Concept of Operations (CONOP) uses this real-time DRO capability, plus reach-back to shore infrastructures, for all METOC data and/or finished products.

This information is used across a broad spectrum of warfare areas including, but not limited to, Strike, Surface, Air, and Undersea, as well as general weather forecasting.

Status: O&S  
Resource Sponsor: N2/N6  
SSP: 84V0  
Source: PMW/A 170

#### Battle Force Tactical Network (BFTN): ACAT III

BFTN is the Navy's program of record for high-frequency internet protocol (HFIP) and ultra-high-frequency (UHF) line-of-site (LOS) subnet relay (SNR) communications. BFTN is the only Allied/Coalition option, providing command and control in a non-SATCOM environment and serves as a primary backup for SIPRNET in the absence of satellite communications. HFIP operates in the HF spectrum and is capable of data rates of 9.6 kbps in single side band and 19.2 kbps in

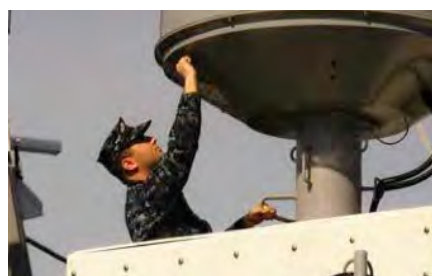


independent side band, while SNR operates in the UHF LOS spectrum and is capable of data rates up to 64 kbps. BFTN also provides critical non-satellite line of sight and beyond line of sight Transmission Control Protocol/ Internet Protocol intra-aircraft carrier strike group connectivity among U.S. and coalition ships, submarines, and aircraft.

In 2007, the USS Harry S. Truman (CVN 75) carrier strike group was the first strike group to deploy with HFIP and SNR. Elements of BFTN were tested during the 2013 Silent Banshee exercise.

**Status:** P&D  
**Resource Sponsor:** N2/N6  
**SSP:** 18S0  
**Developers:** Leidos, Reston, VA  
**Source:** PMW/A 170

## Commercial Broadband Satellite Program (CBSP): ACAT III



As the Navy's next generation Commercial SATCOM Program of Record, CBSP provides the only source of wideband SATCOM to Patrol Coastal (PC)s and Mine Countermeasure Ships (MCM)s (SSV ships), diversity for MILSATCOM on Unit Level Variant (ULV) ships (many unfunded), and augments MILSATCOM on Force Level Variant (FLV) ships. The associated architectures significantly increase data throughput, Navy Assured Command and Control (C2) posture, and SATCOM reliability and space resiliency by providing band diversity, assured access, and redundancy for MILSATCOM.

CBSP consists of two interdependent segments:

1. **Shipboard Terminal Segment:** Consists of three terminal variants and provides bandwidth to ships ranging from Patrol Craft (PC) to Aircraft Carriers (CVN).
2. **Space Segment:** Consists of Commercial C, Commercial (option) and Military X, Commercial Ku bands, and option for Ka access with backhaul to the Navy Telecommunications Area Master Station (NCTAMS) through the leased Commercial Teleports (CT) and terrestrial lines.

Together, the CBSP segments take advantage

of industry's advanced technology and commercial space assets to provide a reliable and robust system within frequency band coverage areas. Additionally, the Navy's established processes with commercial vendors enable rapid response to changing mission requirements.

CBSP was established as a Rapid Deployment Capability (RDC) in March 2007. The program achieved Milestone C September 2009, Initial Operational Capability (IOC) in June 2010, and Full Rate Production (FRP) in September 2011; Full Operational Capability (FOC) is estimated for FY 2027. The approved CBSP terminal objective is 177 ships.

The legacy CWSP WSC-8 will continue in the fleet until replaced by the CBSP terminal by FY20.

**Status:** P&D  
**Resource Sponsor:** N2/N6, F12  
**SSP:** 16A0  
**Developers:** Harris Corporation, Melbourne, FL  
**Source:** PMW/A 170

## Commercial Wideband Satellite Program (CWSP): ACAT III

The CWSP was an outgrowth of the early 1990's Challenge Athena program which began under the Commercial Satellite Communications Operational Requirements Document after the Navy and DoD determined that the use of COMSATCOM systems would help increase the available bandwidth for the fleet. CWSP communications suites consist of a terminal, a baseband suite, radome(s), and either one antenna (AN/WSC-8(V)1) or two antennas (AN/WSC-8(V)2), which together provide satellite imagery and video transmission to and from the ship. The expansions and successes of the Challenge Athena demonstration project were so successful that the CWSP system was declared a fully funded U.S. Navy acquisition program.

In 2002, SPAWAR, in cooperation with the Naval Network and Space Operations Command (NNSOC), fleet commanders, and the Office of the Chief of Naval Operations (OPNAV), began upgrading the throughput of ships with CWSP installed to 2.048 Mbps (E1) to meet requests for increased bandwidth. This successful effort was critical in ensuring the Warfighter had greater access to information during Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF). Current plans for CWSP WSC-8 are total replacement by the Commercial Broadband Satellite Program (CBSP) terminal by FY20.

**Status:** O&S  
**Resource Sponsor:** N2/N6, F12

**SSP:** 16A0  
**Developers:** Harris Corporation, Melbourne, FL  
**Source:** PMW/A 170

## Digital Modular Radio (DMR): ACAT III



The USC-61(C) DMR is the Navy's first software-defined radio to have become a communications system standard for the U.S. military. DMR has four independent, full-duplex channels that provide surface ships, submarines, and shore commands with multiple waveforms and associated internal multi-level information security for voice and data communications. A single DMR is capable of replacing numerous existing Navy and Coast Guard legacy radios in the high frequency, very high frequency, and ultra-high frequency (UHF) line-of-sight and UHF satellite communications (SATCOM) frequency bands. The DMR is software configurable and programmable with an open system architecture using commercial off-the-shelf/non-developmental item hardware. DMR is the Navy's primary solution for providing the UHF SATCOM Integrated Waveform (IW) and Mobile User Objective System (MUOS) waveform to the fleet.

The Navy has procured over 600 DMR systems through FY 2016. The DMR is installed on various platforms, including the Nimitz (CVN 68)-class aircraft carriers, Arleigh Burke (DDG 51)-class guided missile destroyers, the USS Makin Island (LHD 8) and America (LHA 6) amphibious assault ships, San Antonio (LPD 17)-class amphibious transport dock ships, Lewis and Clark (T-AKE)-class ships, select shore communications stations, and on submarines as part of the Common Submarine Radio Room. DMR is the Navy and Coast Guard's radio/terminal solution for implementing the IW and MUOS waveforms. For Navy new construction, DMR is also used to provide an HF capability as part of the High-Frequency Distribution Amplifier Group (HFDAG). With the introduction of IW, MUOS and HFDAG, DMR is the Navy's complete tactical communication solution for the radio-frequency spectrum from 2 MHz through 2

GHz. IW/MUOS-capable DMRs are planned to start fielding in FY19.

**Status:** P&D

**Resource Sponsor:** N2/N6

**SSP:** 18Q0

**Developers:** General Dynamics, *Scottsdale, AZ*

**Source:** PMW/A 170

## Global Broadcasting Service Shipboard Antenna System (GBS): ACAT III



GBS is a military satellite communications (MILSATCOM) broadcast service designed to meet the ever-increasing Warfighter demand for large-volume data. It acts as an extension of the DoDIN, which provides worldwide, high-capacity, one-way transmission of voice, data, and video supporting fleet commands and joint combat forces in garrison, in transit, and deployed to global crisis and combat zones. GBS supports training and military exercises, special activities, crisis operations, battlefield awareness, weapons targeting, and ISR requirements. GBS is capable of broadcasting over Ka, Ku, and X bands utilizing both DoD military (i.e. UFO and WGS), and commercial satellites (e.g. Horizons-1). Current broadcasts are only available in the Ka band. GBS is a system of broadcast managers, injection points, broadcast satellites, receiver terminals, and management processes for requesting and coordinating the distribution of information products. GBS delivers the following products: imagery, intelligence, training, 24-hour commercial news, tactical Full Motion Video (FMV), weather services, and other large-volume, rapid-delivery content as necessary.

The GBS primary functions are high-capacity product dissemination (imagery, Unmanned Aerial Vehicle (UAV) FMV, large data files) for mission-essential situational awareness. The essential functions of GBS include broadcast planning, broadcast management, content delivery, and content reception. The GBS architecture is a content-priority-based broadcast. This ensures the most critical information is delivered first. The IP architecture allows higher-content-priority

products to interrupt the broadcast of lower priority broadcasts after which the delivery of lower-level-priority content will resume. GBS is an IT, mission-essential national security system providing network-centric warfare communications. Worldwide SIPRNET (Secret Internet Protocol Router Network) Split Internet Protocol (IP) capability was established on all Navy GBS-equipped platforms in FY 2011, enabling users to request real-time data via an alternate off-ship system for delivery via GBS and significantly enhancing the warfighter's situational awareness.

**Status:** P&D

**Resource Sponsor:** N2/N6

**SSP:** 18A0

**Developers:** Raytheon, *Reston, VA*

SPAWAR, PEO C4I, PMW/A 170, *San Diego, CA*

USAF Space and Missile Systems Center, *El Segundo, CA*

**Source:** PMW/A 170

## GPS Positioning, Navigation, and Timing Services (GPNTS): ACAT III

GPNTS is the Navy's next generation surface Positioning, Navigation, and Timing (PNT) system. GPNTS is an ACAT III Program and will be a back-fit for NAVSSI and WRN-6 and will support mission critical real-time PNT data services for weapons, combat, navigation, and other C4I systems requiring PNT information. GPNTS will provide a robust, secure, integrated and interoperable network-centric PNT capability to include: Selective Availability Anti-Spoofing Security Module (SAASM) GPS security architecture; a migration path to modernized signal-in-space (M-Code); Open Architecture (OA) approach allowing for the integration of alternate PNT sources; a scalable solution that consolidates platform GPS receivers; will pair with GPS anti-jam antennas; and will provide an extended timing holdover in a GPS-denied environment.

**Status:** EMD

**Resource Sponsor:** N2/N6E, N95, N96, N98

**SSP:** 84A0

**Developers:** Raytheon IDS, *San Diego, CA*

**Source:** PMW/A 170

## GPS Modernization: Project

GPS Modernization addresses the Navy's future integration of Air Force Developed M-Code capable GPS receivers and funds the Navy's integration of Military GPS User Equipment (MGUE) into various receivers on Navy air and sea platforms. Modernized GPS receivers will receive the new M-Code GPS Signal in Space, incorporate enhanced cryptology, deliver greater position and

time accuracy. Provide improved protection against signal spoofing as compared to legacy receivers. Delivers increased GPS anti-jam protection and enables blue force GPS electronic attack.

**Status:** N/A

**Resource Sponsor:** N2/N6E, N98

**SSP:** 84A0

**Source:** PMW/A 170

## Joint Aerial Layer Network – Maritime (JALN-M): Project

JALN-M addresses capability gaps (network connectivity, network capacity, information and data sharing, network management) to enable assured communications in any environment, to include Assured C2. JALN-M is a system of systems capability demonstration which will: demonstrate Navy ship-to-ship/sub and ship/afloat-to-DoDIN communications via an Airborne JALN-M Pod hosting Extended Data Rates (AXDR), High Capacity Backbone (HCB), and Assured PNT (Positioning, Navigation, and Timing) payloads and leverage existing fleet communications infrastructure to minimize changes for required capability. JALN-M Demo seeks to inform DoD and Navy leadership on the JALN way ahead (technical and programmatic risks) and of the viability of JALN-M as a future capability to restore communications and network connectivity in a satellite denied communications threat scenario. The Acquisition Decision Memorandum (ADM) was signed on 4 Feb 15, and the Preliminary Design Document (PDD) was signed on 19 May 15. The JALN-M system demonstration is scheduled for FY18.

**Status:** Functional

**Resource Sponsor:** N2/N6

**SSP:** 84A0

**Developers:** MIT Lincoln Labs, *Lexington, MA*

(Hanscom Air Force Base)

SPAWAR, *San Diego, CA*

Navy Undersea Warfare (NUWC), *Newport, RI*

**Source:** PMW/A 170

## Naval Senior Leadership Communications – Aircraft (NSLC-A): Project



Naval Senior Leadership Communications -Aircraft (NSLC-A) project assures voice and data communications including end-to-end access to NMCI and MarineNet SIPR/NIPR and public internet to Naval senior Leaders when traveling on designated Service Secretary Controlled C-37 and C-20 aircraft. NSLC-A provides service for the Secretary of the Navy (SECNAV), Chief of Naval Operations (CNO), Commandant of the Marine Corps (CMC), Commander Pacific Fleet (COMPACFLT), Commander Naval Forces Europe/Africa (CNE-CNA) and other Joint Senior Leaders.

**Status:** Functional  
**Resource Sponsor:** N2/N6  
**SSP:** 16A0  
**Developers:** Gulfstream Aerospace Corporation, Savannah, GA  
**Source:** PMW/A 170

## Navigation Warfare Air (Air NAVWAR): ACAT III

The GAS-1 is a 7- element Controlled Reception Pattern Antenna (CRPA) that provides Anti-Jam nulling protection for GPS signals. It is a Joint Service product currently in use by the USAF and several Allied countries. The GAS-1 is integrated on MH-60, C/KC-130, HH-60H, P-3 and P-8 as part of the Navy's Navigation Warfare (NAVWAR) Program. The GAS-1N is a 4 - element CRPA which uses the GAS-1 antenna electronics and is installed on the AV-8B. The Advanced Digital Antenna Production (ADAP) CRPA is the next generation of NAVWAR protection and is installed on the MH-53E. Air NAVWAR started installation of ADAP antenna electronics along with a Conformal CRPA on the F/A-18E/F and EA-18G in FY12 with FOC FY31.

**Status:** P&D  
**Resource Sponsors:** N98  
**SSP:** 84A0  
**Developers:** NAVWAR Antenna/Electronics (ADAP and GAS-1 AE): Raytheon Systems Limited, Harlow, UK  
 NAVWAR ECP 6315 for F/A 18E/F and EA-18G: Boeing, St. Louis, MO  
 NAVWAR Antenna for F/A-18E/F and EA-18G: BAE Systems, Greenlawn, NJ  
**Source:** PMW/A 170

## Navigation Warfare Sea (Sea NAVWAR): ACAT III

Sea NAVWAR consists of 2 increments. The purpose of Increments 1 and 2 of the program is to integrate products (GAS-1 and ADAP) developed by the U. S. Air Force GPS Directorate to maximize common

antenna and electronics across Navy surface platforms. The requirements for Sea NAVWAR Increment 3 were subsumed by the OE-538 Inc 2 program (PMW-770) and will integrate Submarine Anti-Jam GPS Enhancements (SAGE) to meet submarine requirements. This program will implement Anti-Jam protection and other GPS Modernization enhancements to ensure the continued viability of GPS signal availability of position, timing and accuracy to support our warfighting capability.

**Status:** P&D  
**Resource Sponsors:** N2/N6E, N95, N96, N97, N98  
**SSP:** 84A0  
**Developers:** NAVWAR Antenna/Electronics (ADAP and GAS-1 AE)—Raytheon Systems Limited, Harlow, UK  
**Source:** PMW/A 170

## Navy Multiband Terminal (NMT): ACAT IC



NMT is the Navy's next generation terminal for military protected wideband satellite communications, providing voice, video and data communications. NMT enables Assured Communications initiatives, supports the President's Ballistic Missile Defense (BMD) initiative, and the Navy Strategic Plan. It provides simultaneous access to existing (WGS, AEHF, MILSTAR, UFO, DSCS) and new military satellites (EPS) with enhanced capabilities, increased throughput, increased bandwidth, and new waveforms. All major ships, submarines and selected land-based Navy communications facilities will be equipped with the NMT. NMT Extremely High Frequency (EHF) communications provide Low Probability of Detection/Low Probability of Intercept and Anti-Jam satellite communications, while NMT Super High Frequency (SHF) communications are supported by external wideband modem interfaces that enable easy transition to new commercial waveform technology.

The NMT is more reliable with a 22 percent greater designed reliability requirement than predecessor systems. A completely redesigned user interface streamlines operator use with 85 percent less operator terminal interactions. The terminal lowers

fleet operating cost by reducing number of parts and terminal footprint onboard ships. Three international partners – Canada, the Netherlands, and the United Kingdom – are procuring a variant of the NMT. In addition, the Department of Defense Teleport and Enhanced Polar SATCOM system programs have procured NMTs to provide fleet units with shore reach-back capabilities.

NMT installations began in February 2012 and the program entered full-rate production status in November 2012. NMT has an inventory objective of 250 terminals, of which 129 are fielded as of December 2016.

**Status:** P&D  
**Resource Sponsor:** N2/N6  
**SSP:** 14B1  
**Developers:** Raytheon, Marlborough, MA  
**Source:** PMW/A 170

## Network Tactical Common Data Link (NTCDL): ACAT III

Navy Common Data Link (CDL) systems on force- level ships (e.g., aircraft carriers and amphibious assault ships) include the Network Tactical Common Data Link (NTCDL), and its predecessor, the Communications Data Link System (CDLS), with Hawklink on unit-level ships (e.g., cruisers and destroyers). NTCDL provides the ability to transmit/receive real-time intelligence, surveillance, and reconnaissance (ISR) data simultaneously from multiple sources (air, surface, sub-surface, and man-portable) and exchange command and control information (voice, data, imagery, and full-motion video) across dissimilar joint, service, coalition, and civil networks. NTCDL provides warfighters the capability to support multiple, simultaneous, networked operations with in-service CDL equipped aircraft (e.g., F/A-18, P-3, and MH- 60R) in addition to next-generation manned and unmanned platforms (e.g., P-8 Poseidon, Triton, Unmanned Carrier-Launched Airborne Surveillance and Strike (UCLASS) vehicle, Small Tactical Unmanned Aircraft Systems (STUAS), and Fire Scout).

NTCDL is a tiered capability providing modular, scalable, multiple-link networked communications. NTCDL benefits the fleet by providing horizon extension for line-of-sight sensor systems for use in time- critical strike missions and supports Tasking Collection Processing Exploitation Dissemination (TCPED) via its ISR networking capability. NTCDL also supports humanitarian assistance/disaster relief efforts through its ability to share ISR data across dissimilar joint, service, coalition, and civil organizations.



In December 2010, the Chief of Naval Operations directed a solution to address the Navy's requirement for multi-simultaneous CDL mission support within the future year's defense plan. Specifically, the task was to replace the existing single, point-to-point shipboard CDLS with a multi-point networking system to support ISR transport. Initial investment in 2013 stood up the NTCDL program of record and funded the requirement for NTCDL on board aircraft carriers, with initial operational capability planned for 2023.

Future investments will fund requirement for large-deck amphibious ships and develop multi-link NTCDL to meet requirements for use on aircraft (e.g., P-8, UCLASS, Triton, and MH-60R), smaller ships (e.g., cruisers, destroyers, and Littoral Combat Ships), submarines, and shore-based handheld users and mobile platforms.

NTCDL will support multi-simultaneous CDL missions; provide capability for ship-ship, ship-air and air-air communication; facilitate download of ISR information to multiple surface commands (ship/shore); support for unmanned aerial vehicles and unmanned aircraft systems fielded, and planned and support TCPED architecture.

**Status:** TM&RR  
**Resource Sponsor:** N2/N6  
**SSP:** 08Q0  
**Source:** PMW/A 170

## Portable Radios Project (PRP): Project



Single source for procurement of all portable radios for the Navy, procuring interoperable, secure/non-secure tactical portable radios that fulfill the Marine Corps, Navy Special Warfare Forces, Naval Expeditionary Combat Command and Ship (emergency communications) HF, VHF, UHF LOS and UHF SATCOM requirements.

**Status:** Functional  
**Resource Sponsor:** N2/N6, N95  
**SSP:** 18I0  
**Developers:** Harris Corporation, Rochester, NY  
**Source:** PMW/A 170

## Time Division Multiple Access (TDMA) Interface Processor (TIP): Project

The TDMA TIP is the extremely high-frequency (EHF) medium data rate (MDR) baseband interface unit that supports near real-time data transfer between multiple Navy Tactical Data Processors as well as data transfers for the Automated Digital Network System (ADNS) using EHF SATCOM services. The TDMA technology, employed by TIP, is required to use Navy EHF SATCOM Program (NESP) systems. Including TDMA within NESP systems significantly reduces the need for satellite services to handle dynamic traffic loads. TIP also permits a more efficient use of satellite resources by allowing multiple beams on a receive-only basis, which improves NESP operational flexibility while improving strengths inherent in SATCOM. TIP is ancillary equipment designed as part of the Navy EHF Satellite System Program (NESP) and is compatible with the Navy Multiband Terminal (NMT), the follow-on system to NESP.

**Status:** Functional  
**Resource Sponsor:** N2/N6, F11  
**SSP:** 14B1  
**Developers:** Raytheon, Marlborough, MA  
**Source:** PMW/A 170





## Overview

The Carrier and Air Integration Program Office delivers integrated and interoperable C4I capabilities and support to our Navy's aircraft carriers, amphibious ships, command ships and aircraft by leading advanced planning for fleet modernization and C4I efforts on new construction ships.

## Programs

TacMobile



## PMW 750

### Carrier & Air Integration Program Office

#### Tactical Mobile (TacMobile): ACAT III



The Navy Tactical Mobile program of record provides systems to support maritime patrol and reconnaissance force commanders with the capability to plan, direct, and control the tactical operations of maritime patrol and reconnaissance aircraft (MPRA), and other assigned units within their respective areas of responsibility. The TacMobile systems that support these missions are Tactical Operations Centers (TOCs), Mobile Tactical Operations centers (MTOCs), and modular, highly portable P-8A Fly-Away Kits (FAKs). TOCs and MTOCs provide MPRA operational support ashore at main operating bases, primary deployment sites, and forward operating bases that are similar to support provided on board aircraft carriers to embarked tactical air wings. P-8A FAKs support short-duration deployments by 1-2 P-8A aircraft with a minimal, essential subset of MTOC capability. TOC, MTOC, and P-8A FAK support includes persistent situational operational and tactical awareness, MPRA pre-mission coordination and planning, mission and target briefings, tactical in-flight support, post-mission analysis of collected sensor data, data dissemination, and feedback to aircraft sensor operators and supported commanders. Services provided include: analysis and correlation of diverse

sensor information; data management support; command decision aids; data communication; mission planning, evaluation, and dissemination of surveillance data; and threat alerts to operational users ashore and afloat. As advances in sensor technology are fielded on MPRF/MPRA, TOC and MTOC sensor analysis equipment will evolve to support the new sensor capabilities. TacMobile Increment 2.1 full-rate production and fielding were authorized in November 2012 to field new capabilities incorporating P-8A Poseidon Multi-mission Maritime Aircraft mission support, applications and systems interfaces as well as critical communications upgrades needed for TOCs and MTOCs to support P-8A intelligence surveillance and reconnaissance operations. TacMobile Increment 2.1 achieved initial operational capability (IOC) in October 2013 and reached full operational capability in April 2016.

TacMobile Increment 2.1 upgrades and tech refreshes will support evolving P-8A Inc 2 and Inc 3 Block 1, MQ-4C Triton Baseline, and MQ-4C Triton Multi-INT capabilities as well as earlier versions of P-8A and P-3C aircraft still in fleet service. TacMobile Increment 3 is in the Technology Maturation & Risk Reduction Phase. TacMobile Increment 3 will support advanced capabilities of P-8A Inc 3 Block 2 and MQ-4C Multi-INT, as well as earlier versions of P-8A and P-3C aircraft still in fleet service. TacMobile Increment 3 IOC is expected in FY23.

**Status:** P&D

**Resource Sponsor:** N2/N6, N98

**SSP:** 51E0

**Developers:** SSC Atlantic, Charleston, SC

**Source:** PMW 750

## Overview

The Undersea Integration Program Office delivers integrated and interoperable C4I capabilities and support to the Navy by connecting the undersea architecture of manned and unmanned systems and undersea vehicles to maximize joint warfighting capability.

### Programs/Projects

AdvHDR  
CSRR  
FSBS High Power  
ISDS  
LBUCS  
OE-538  
Shore to Ship Communications Systems  
SCAP CEP  
SAMS  
SCB  
SubHDR  
SUBOPAUTH  
TACAMO TGC-M  
AN/BRR-6/6B  
XENG



## PMW 770

### Undersea Integration Program Office

#### Advanced High Data Rate Antenna (AdvHDR): Project

The AdvHDR system includes Low Probability of Intercept/Low Probability of Detection (LPI/LPD) development, as well as the US/UK Optical Communications (OCOMMS) Project Arrangement (PA). These two efforts will provide low size, low weight, and low power communications capabilities to bring stealthy, wide bandwidth, and on demand communications to manned and unmanned undersea systems.

**Status:** Exploratory  
**Resource Sponsor:** N97  
**Developers:** MITRE  
SSC Pacific, *San Diego, CA*  
Naval Undersea Warfare Center, *Newport, RI*  
**Source:** PMW 770

with control and management software, commercial-off-the-shelf servers, routers, phones and printers, as well as other miscellaneous communications infrastructure (e.g., inter-rack cabling).

**Status:** P&D  
**Resource Sponsor:** N2/N6  
**SSP:** 87E0  
**Developers:** Naval Undersea Warfare Center, *Newport, RI*  
SSC Atlantic, *Charleston, SC*  
SSC Pacific, *San Diego, CA*  
Lockheed Martin, *Maritime Systems Integration*  
**Source:** PMW 770

#### Fixed Submarine Broadcast System (FSBS) High Power: AAP



The FSBS high-power program maintains and upgrades the aging and obsolete components of the submarine broadcast transmission system, to include components located at the Broadcast Transmitter Station (BTS) Sites. FSBS enables the transmission of Nuclear Command, Control, and Communications (NC3) Emergency Action

#### Common Submarine Radio Room (CSRR): ACAT II

The CSRR is a System of Systems (SoS) program that integrates components from various Navy and Department of Defense (DoD) Programs of Record into a fully integrated and comprehensively tested exterior communication system for all submarine classes. In addition to integration, the CSRR program develops, procures, and fields critical SoS infrastructure and products that provide the Submarine Force with fully integrated radio rooms that are controllable from a single workstation. CSRR POR products include the radio frequency (RF) distribution and control system, the consolidated radio room workstation



Messages (EAMs) to submarines operating around the globe using Low Frequency/Very Low Frequency (LF/VLF) transmission equipment.

**Status:** O&S

**Resource Sponsor:** N2/N6

**SSP:** 02D0

**Developers:** SSC Pacific, *San Diego, CA*

SSC Atlantic, *Charleston, SC*

**Source:** PMW 770

## Information Screening and Delivery Subsystem (ISDS): Project

The ISDS is comprised of shore and afloat components in a server-client relationship. The shore system enables BCA operators to screen and manage all incoming submarine community message traffic, then build and disseminate the applicable broadcasts. ISDS allows the exchange of mission critical command and control messaging between submarine forces and the Submarine Operating Authority (SUBOPAUTH) Broadcast Control Authority (BCA) sites.

**Status:** Functional

**Resource Sponsor:** N2/N6

**SSP:** 02D0

**Developers:** SSC Pacific, *San Diego, California*

**Source:** PMW 770

## Low Band Universal Communications System (LBUCS): ACAT IVT

The LBUCS program will modernize the low power transmit and receive sub-systems of the Fixed Submarine Broadcast System (FSBS), simplify the FSBS architecture, and provide additional Low Frequency/Very Low Frequency (LF/VLF) capability in the form of a high-performance transmission mode. Key attributes of the LBUCS program include: Mitigating obsolescence and crypto issues; updating LF/VLF transmission modes (critical in certain warfighting scenarios); and providing geographic diversity and redundancy for keying each transmitter.

**Status:** P&D

**Resource Sponsor:** N2/N6

**SSP:** 02D0

**Developers:** SSC Pacific, *San Diego, CA*

SSC Atlantic, *Charleston, SC*

**Source:** PMW 770

## Multi-Function Mast Antenna (OE-538): ACAT III

The Multi-Function Mast Antenna OE-538 and OE-592 antennas are single-service (submarine-unique), mast-mounted, multi-

function antenna systems that provide Radio Frequency (RF) communication capability in the Very Low Frequency (VLF)/Low Frequency (LF), Medium Frequency (MF)/High Frequency (HF), Very High Frequency (VHF), Ultra High Frequency (UHF) Line-of-Sight, and UHF Follow-on Satellite bands, as well as Identification Friend or Foe (IFF) and Global Positioning System (GPS) capabilities. The OE-538A/OE-592A system adds functionality to support Mobile User Objective System (MUOS), Tactical Data Link via Link 16, and Iridium capabilities. The OE-538B/OE-592B system adds functionality to support requirements for GPS Anti-Jam and GPS Military-Coded capabilities.

**Status:** Inc 1: OE-538 - O&S/Inc 2: OE-538A - P&D, OE-538B - EMD

**Resource Sponsor:** N97

**Developers:** Submarine Antenna Joint Venture (SAJV): Lockheed Martin Sippican (LMS), *Marion, MA*, and Granite State Manufacturing (GSM), *Manchester, NH*

**Source:** PMW 770

## Shore to Ship Communications Systems: Project

This effort focuses on the research, development, test and evaluation efforts that are required to meet the challenges of developing cost effective solutions to maintain and upgrade Submarine Communications equipment to sustain Submarine Communications capability. The efforts under this PDD ensure that the Submarine Broadcast can be maintained to meet current assured message delivery requirements to the strategic and tactical submarine force operating below periscope depth in accordance with CJCSI 6811.01, Nuclear Command and Control System Technical Performance Criteria.

**Status:** Exploratory

**Resource Sponsor:** N2/N6

**SSP:** 02D0

**Source:** PMW 770

## Strategic Communications Continuing Assessment Program (SCAP) Continuing Evaluation Program (CEP): Project

The SCAP program conducts quantitative assessments of strategic missions, operational areas and threat analysis to determine areas of operation that strategic submarine communications can support in benign and stressed environments. The CEP program measures Command, Control and Communications (C3) systems performance on SSBNs; report results to the operational Commanders and System Planners; and

make recommendations to the Navy for improvements that can be incorporated immediately or in the upcoming new submarine radio room and its components.

**Status:** Exploratory

**Resource Sponsor:** N2/N6

**SSP:** 0210

**Developers:** Johns Hopkins University, Applied Physics Lab

**Source:** PMW 770

## Submarine Antenna Modifications and Sustainment (SAMS): AAP



OE-315

BRA-24



BRT-1A

BRM-2A



BRA-6B

The SAMS system provides sustainment support and improved reliability, maintainability and availability for legacy submarine antenna systems. Legacy antennas provide communications capability needed to support Joint, Naval, and Allied forces in the Very Low Frequency (VLF) to Ultra High Frequency (UHF) ranges. These antenna systems currently support mission critical communications for the SSBN strategic deterrent mission.

**Status:** O&S

**Resource Sponsor:** N97

**Developers:** SSC Atlantic, *Charleston, SC*  
Naval Undersea Warfare Center, *Newport, RI*  
Naval Surface Warfare Center, *Philadelphia, PA*  
Naval Surface Warfare Center, *Carderock, MD*  
Johns Hopkins, Applied Physics Lab

**Source:** PMW 770

## Submarine Communications Buoy (SCB): Project

The SCB Project Arrangement with the United Kingdom will explore the potential for providing an off-board vehicle capable of multiple communication media and sensors, as well as addressing obsolescence of the

existing AN/BRR-6/6B Towed Buoy Antenna System (AN/BRR-6) currently installed on SSBN and SSGN class submarine platforms.

**Status:** Exploratory

**Resource Sponsor:** N97

**SSP:** 87E0

**Developers:** SSC Atlantic, *Charleston, SC*  
Naval Undersea Warfare Center, *Newport, RI*  
Naval Surface Warfare Center, *Philadelphia, PA*  
Naval Surface Warfare Center, *Carderock, MD*  
United Kingdom, *DSTL Portsmouth*  
**Source:** PMW 770

## Submarine High Data Rate Antenna (SubHDR): ACAT III

The SubHDR mast group provides the submarine fleet with Extremely High Frequency (EHF) Low Data Rate (LDR) capability, EHF Medium Data Rate (MDR) capability, EHF Extended Data Rate (XDR) capability, military Super High Frequency (SHF) capability, and reception of the Global Broadcast Service (GBS). This system supports current and emerging information transfer requirements of the multi-mission, highly-mobile, covert submarine platforms supporting Joint, Naval, and Allied Forces engaged in regional and global conflicts.

**Status:** O&S

**Resource Sponsor:** N97

**SSP:** 87E0

**Developers:** Raytheon

**Source:** PMW 770

## Submarine Operating Authority (SUBOPAETH): AAP

The SUBOPAETH program sustains and modernizes a variety of submarine command, control, and communications (C3) systems located at submarine and Take-Charge and Move-Out (TACAMO) Broadcast Control Authority (BCA) sites. The SUBOPAETH program addresses obsolescence, supportability, sustainability, and cybersecurity.

**Status:** P&D

**Resource Sponsor:** N2/N6

**SSP:** 02D0

**Developers:** SSC Pacific, *San Diego, CA*

SSC Atlantic, *Charleston, SC*

**Source:** PMW 770

## Take Charge and Move Out (TACAMO) Ground Communications – Mobile (TGC-M): AAP

The TACAMO program supports ground communications by coordination Program of Record (POR) modernizations and upgrades; identifying non-POR systems and developing acquisition, modernization, and sustainment requirements; and integration and sustaining C4I equipment at the TACAMO BCAs.

**Status:** P&D

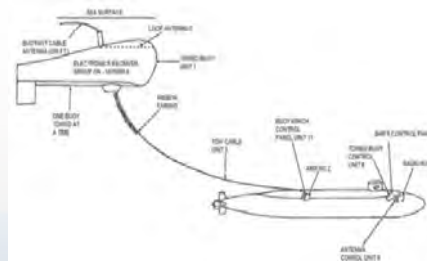
**Resource Sponsor:** N2/N6

**SSP:** 02D0/43T

**Developers:** SSC Pacific, *San Diego, CA*

**Source:** PMW 770

## Towed Buoy Antenna (AN/BRR-6/6B): Project



The Towed Antenna Buoy (AN/BRR-6/6B) system provides significant operational flexibility by providing a means to passively receive communications while remaining at depth, with minimal impact on a ship's maneuverability or detectability. BRR-6/6B is

especially critical for Emergency Action Message (EAM) delivery to SSBNs. The BRR-6 program supports the development, procurement, and installation of field change kits for the Towed Buoy Antenna (BRR-6/6B) to improve system performance and reliability.

**Status:** Functional

**Resource Sponsor:** N97

**SSP:** 87E0

**Developers:** Naval Undersea Warfare Center, *Newport, RI*

Naval Surface Warfare Center, *Philadelphia, PA*  
Naval Surface Warfare Center, *Carderock, MD*

**Source:** PMW 770

## Transition Engineering (XENG): Project

The XENG project supports concept engineering, new technology evaluations, reliability improvements, and continued Preplanned Product Improvement (P3I) assessments in support of current and future undersea communications applications. This effort bridges the gap between Science and Technology (S&T) and undersea communications Programs of Record (POR) by funding the development of products up to Technology Readiness Level (TRL) 7.

**Status:** Exploratory

**Resource Sponsor:** N2/N6, N97

**SSP:** 87E0

**Developers:** MITRE

SSC Pacific, *San Diego, CA*

Naval Undersea Warfare Center, *Newport, RI*

**Source:** PMW 770







## Overview

The Shore and Expeditionary Integration Program Office delivers integrated and interoperable C4I capabilities and support to the Navy's shore and expeditionary forces through modernization, acquisition, and system integration.

### Programs/Projects

C2OIX  
DMS  
DJC2  
Expeditionary C4I  
IW CS  
JMINI CS  
MOC  
NC3  
Shore Messaging Modernization  
STACC  
Telephony  
Teleport SPA  
Teleports  
USNO Network Modernization Project  
USNO Precise Time and Astrometric Network  
VSE



### Command and Control Official Information eXchange (C2OIX): Project

C2OIX provides the Navy with organizational messaging services and interfaces with the worldwide Department of Defense (DoD) consumers, such as tactical deployed users, designated Federal Government organizations, and foreign allies. C2OIX Afloat consists of the Navy Modular Automated Communications System (NAVMACS), a shipboard message processing system that guards broadcast channels and provides the only General Service (GENSER) Top Secret level communications path on and off the ship. C2OIX Shore provides the shore-messaging infrastructure via C2OIX Version 1.x at the Naval Computer and Telecommunications Area Master Stations.

The C2OIX project combined the Tactical Messaging (ACAT IVT) and the Defense Message System (DMS) (ACAT IVM) into a single service life extension project (SLEP) supporting all Navy messaging requirements, providing organizational C2 messages to shore, afloat and mobile Navy users. Afloat component NAVMACS II is in the operations and sustainment phase to technically refresh all shipboard systems that lack support and adherence to in-place cyber security requirements. Shore components are in the operations and sustainment phase and C2OIX 1.0 is fielded on three enclaves (NIPR, SIPR and TS/C) at Naval Computer Telecommunication Area Master Station (NCTAMS) Atlantic and NCTAMS Pacific. The shore component of the C2OIX Project

## PMW 790

### Shore & Expeditionary Integration Program Office

is the AN/UYC-20(V)2, which will be replaced by the C2OIX 2.0, AN/UYC-20(V)3, starting in 2015 and completing in 2016 at NCTAMS Atlantic and NCTAMS Pacific.

**Status:** Functional

**Resource Sponsor:** N2/N6

**SSP:** 23A0

**Developers:** General Dynamics, Taunton, MA  
Scientific Research Corporation, Charleston, SC

**Source:** PMW 790

### Defense Messaging Systems (DMS): Project

DMS provides OSD-mandated, joint interoperable, high assurance organizational messaging capability. The Navy intends to transition from the DMS system to the network-enabled format identified in Command and Control Official Information Exchange (C2OIX). C2OIX consolidates and eliminates shore and afloat support systems while still facilitating message transfer.

**Status:** Functional

**Resource Sponsor:** N2/N6

**SSP:** 43Q0

**Developers:** Scientific Research Corporation, Charleston, SC

**Source:** PMW 790



## Deployable Joint Command and Control (DJC2): ACAT IAC



The DJC2 program provides a standardized, rapidly deployable, scalable, and reconfigurable C2 and collaboration capable combat operations center that can be set up anywhere in the world in six-to-24 hours after arrival in theater to support geographic combatant commanders and their joint component commands in the rapid stand up of a joint task force (JTF) headquarters. DJC2 can be employed when executing operations ranging in scale from a first responder or small early-entry, forward-component operations center to a full JTF headquarters. DJC2 has been used for humanitarian assistance/disaster response operations, including: Operation Damayan after Typhoon Haiyan in the Philippines; Hurricane Sandy relief in New Jersey and New York; Operation Tomodachi after the earthquake and tsunami in Japan; JTF Unified Response after the earthquake in Haiti; JTF Caring Response after Cyclone Nargis in Myanmar; and JTF Katrina after Hurricane Katrina in New Orleans, Louisiana, Operation United Assistance; Ebola Relief Effort in Liberia, and Earthquake Relief in Nepal/Thailand. Additionally, the systems are used extensively for JTF headquarters joint exercises and training. DJC2 extends the joint sea base ashore for rapid, dynamic joint operations.

The DJC2 system has three modular tent/mobile shelter configurations, which iteratively build up C2 capability during the first phases of a joint operation. Configurations include: an autonomous Rapid-Response Kit (five to 15 seats); Early Entry (20 to 40 seats); and Core (60 seats). An Early Entry configuration can be set up and operational with three networks and communications in less than six hours. The fully fielded DJC2 configuration in a footprint of approximately 40,000 square feet can be set up and operational with five networks in less than 24 hours. The number of users supported can be expanded by lashing together two or more Cores, or by adding Core Expansion Kits (three available, adding 60-seats each, 180 total). A fully fielded DJC2 includes self-generated power, environmental control, shelters (tents), infrastructure, limited communications

equipment, C2 applications, and office automation and collaboration software applications with operator workstations (laptop computers, chairs, and tables), displays, intercommunications, local-area networks, and access to wide-area networks.

In September 2008, the DJC2 program attained full operational capability with the delivery of six operational Core systems to: the U.S. Southern Command (two Core systems, with one transferred to U.S. Army South); U.S. European Command; U.S. Pacific Command (two Core Systems, with one transferred to III Marine Expeditionary Force); and U.S. Africa Command. A seventh system was provided to Naval Forces Central Command in support of an urgent operational needs statement and their continuity of operations plan requirements. In March 2016, DJC2 Core 2, formerly fielded to U.S. Army South, upon reconstitution, was fielded to NAVEUR at NAS Sigonella, Sicily. Programmed funding supports hardware sustainment, information technology refresh, and technology insertion efforts (based on warfighter input as technologies mature) across the future year's defense program. The DJC2 program is in the operations and support phase and has successfully fielded several cycles of technology insertion (delivered in spirals) since September 2008. Because of its open architecture and modular design, the DJC2 system can be reconfigured to meet a wide variety of form/fit/functions.

**Status:** O&S  
**Resource Sponsor:** N2/N6  
**SSP:** 51L0  
**Developers:** ARINC, Panama City, FL  
 Georgia Tech Research Institute, Atlanta, GA  
 ISPA Technology, Panama City, FL  
 Naval Surface Warfare Center, Panama City, FL  
**Source:** PMW 790

## Expeditionary C4I: Project

The Expeditionary C4I project provides C4I capabilities that are rapidly deployable, self-sustainable, adaptive to mission requirements, scalable and agile to support Navy expeditionary forces supporting waterborne and ashore anti-terrorism, force protection, theater security cooperation and engagement, humanitarian assistance and disaster relief contingencies.

**Status:** Functional  
**Developers:** Georgia Tech Research Institute, Atlanta, GA  
 Naval Surface Warfare Center, Panama City, FL  
**Source:** PMW 790

## Integrated Waveform Control System (IW CS): Project

IW CS provides an integrated, dynamic and centralized control of UHF MILSATCOM 25 kHz Demand Assigned Multiple Access channels to maximize existing satellite communications resources through decentralized Web-based management. IW CS enables reliable communications for warfighters and U.S. allies in tactical and training environments and optimizes access to the entire UHF MILSATCOM spectrum.

**Status:** Functional  
**Resource Sponsor:** N2/N6  
**SSP:** 08N0  
**Developers:** SPAWAR PEO C4I, PMW 790, San Diego, CA  
**Source:** PMW 790

## Joint MILSATCOM Network Integrated Control System (JMINI CS): ACAT IVT

JMINI CS is a Navy-led, Joint-interest program that expands the ability to use UHF MILSATCOM 5-kHz and 25-kHz channels by implementing Demand Assigned Multiple Access (DAMA) and Demand Assigned Single Access (DASA) channels, and providing decentralized web-based access to manage global resources. JMINI CS maximizes use of limited UHF satellite assets for U.S. and Allied missions and provides a key role as part of the tactical kill chain for STRIKE missions. Both JMINI CS and the Integrated Waveform Control System (IW CS) provide integral communication paths for mission sets across the joint community, such as Integrated Broadcast Service, Ballistic Missile Defense, and Tomahawk Strike Network.

**Status:** O&S  
**Resource Sponsor:** N2/N6  
**SSP:** 08N0  
**Developers:** SPAWAR PEO C4I, PMW 790, San Diego, CA  
**Source:** PMW 790

## Maritime Operations Center (MOC): Project

The MOC "system of systems" focuses on evolutionary Operational Level of War (OLW) capability to meet the operational demand for flexible, tailorable, scalable, globally netted headquarters to support the numbered fleet/ Navy Component Commanders in the OLW. The MOC construct delivers organizational consistency, capability and capacity to transition with agility between various

roles of the Commander and enhances global networking among Navy and Joint organizations.

MOC Project coordinates standardization of MOCs per the CNO/NAVIFOR Core Baseline/Mission Build (CB/MB) letters and FFC's Integrated Priority Capabilities List (IPCL) currently updated and published on an annual basis.

MOC Project is responsible for implementing MOC systems not managed by other Program Offices. Current efforts include Systems Tool Kit (STK) which supports Space Operations Planning, MOC in the Middle (MITM) which enables routing of Navy BMD traffic to Navy LMMTs, Enterprise Network Management System (ENMS) Lite which provides a standardized solution for maintaining MOC computing and networking infrastructure readiness, and Command and Control Battle Management Communication (C2BMC) which is a Missile Defense Agency system that enables MOCs to support BMD planning and provides situation awareness.

**Status:** Functional  
**Resource Sponsor:** N2/N6

**SSP:** 51P0  
**Developers:** SPAWAR PEO C4I, PMW 790, San Diego, CA  
**Source:** PMW 790

## Nuclear C3 Navy Modernized Hybrid Solution (NC3): ACAT IVT

NC3 Hybrid Solution (HS) provides accurate and reliable delivery of Emergency Action Messages in a pre-attack environment for force direction, force management, situation monitoring and planning. Includes Navy Nova backbone, ground communications supporting TACAMO operations, Nova Information eXchange Terminal (NIXT), and the Very Low Frequency (VLF) and Low Frequency (LF) submarine broadcast systems.

**Status:** P&D  
**Resource Sponsor:** N2/N6  
**SSP:** 43T0  
**Developers:** SPAWAR PEO C4I, PMW 790, *San Diego, CA*  
**Source:** PMW 790

## Shore Messaging Modernization: Project

NCTAMSLANT is one of two global Navy Master Communications Stations. A new facility will co-locate equipment and watch floors to support the cyber defense mission. This project will combine functions from multiple facilities into one 187,001 square foot facility while demolishing eight WWII-era

buildings totaling 207,619 square feet. The facility provides a communications backbone to the fleet and all COCOMs to include NC3, provides critical communications services to 100+ afloat units, Joint and coalition partners and supports 40 ship pier-side units at any one time.

Navy Messaging Modernization facilitates organizational messaging between surface ships, submarines, shore and tactical mobile units by leveraging existing RF paths and shore enterprise networks. Provides Commanders with the capability to exchange C2 official information while afloat or embarked.

**Status:** Functional  
**Resource Sponsor:** N2/N6  
**SSP:** 79S0  
**Developers:** SPAWAR PEO C4I, PMW 790, San Diego, CA  
**Source:** PMW 790

## Shore Tactical Assured Command and Control (STACC): ACAT IVM



The Tactical Switching (TSW) Program of Record (PoR) has officially changed its name to “Shore Tactical Assured Command and Control (STACC)”. The new name reflects expanded mission responsibilities and aligns C4I capabilities to support the fleet under a single POR. Expanded/improved responsibilities include: Global Continuity Of Operations (COOP) and distributed staff operations; standard IP service offering at four Fleet Network Operations Centers (FLTNOG) - NCTAMS PAC (PRNOG), NCTAMS LANT (UARNOG), NCTS Bahrain (IORNOG) and NCTS Naples (ECRNOG); Each FLTNOG host the Enterprise Network Management System (ENMS) management and monitoring system that allows real-time network situational awareness with a proactive and predictive management of the IT-21 Navy ashore network for global Situational Awareness (SA); and scalable theater services across multiple security enclaves. STACC also modernizes the Navy’s shore legacy serial transport infrastructure into a fully IP network centric enterprise capable of providing seamless and secure transport with increased bandwidth in support of DoD, Joint and coalition operations for voice, video, and

data between shore facilities and the tactical community.

STACC takes a modular, open systems approach to fielding capabilities to leverage modern technology and, where possible, to refresh existing assets. As an example, the STACC program's robust Fleet Network Operations Center (FLTNOC) infrastructure has been virtualized to reduce physical infrastructure and an expansion of hosting services like CHAT, WSUS/YUM, and FVEY. In FY16 STACC absorbed three additional systems into its portfolio and will be modernizing the ashore Combined Enterprise Regional Information Exchange System – Maritime (CENTRIXS-M) and the Sensitive Compartmented Information (SCI) NOCs at PRNOC and UARNOC. This physical and operational consolidation into an integrated shore network architecture will improve sustainment, both in terms of cost and performance. The third system added to the STACC portfolio is the Virtual Secure Enclave (VSE). VSE is a software-defined or Virtual Private Network (VPN)-based network enabling significant improvement in cyber operations, cyber defense, maintenance, and monitoring. VSE provides end-users with virtualized access to C2 applications, reducing hardware sustainment costs and, in concert with Assured C2 transport, improving COOP. In response to cyber-attacks, VSE is used defensively to logically isolate critical systems and users from larger, less-defensible networks. In order to further reduce complexity, standardize hardware and software STACC is aligning to a Common Enterprise Baseline (CEB) within PMW 790 which will align STACC, DJC2, and NECC POR's.

**Status:** P&D  
**Resource Sponsor:** N2/N6  
**SSP:** 23H0  
**Developers:** SPAWAR PEO C4I, PMW 790, *San Diego, CA*  
**Source:** PMW 790

## Telephony: Project

The Shore Telephony project is the Navy's acquisition lead to engineer, procure, install, sustain, and provide In-Service-Engineering-Activity (ISEA) support for fully integrated, cyber secure, voice and video systems, and peripherals. Telephony voice communications services include dial-tone with access to host nation, international, Defense Switched Network (DSN) and voicemail services associated with these networks.

The current Navy switch infrastructure is nearing obsolescence as most systems have reached End-of-Life/End-of-Service (EoL/EoS). In order to align to the Department of Defense (DoD) Unified Capabilities

(UC) Master Plan and support the DoD Chief Information Officer's (CIO) Capability Priorities for FY18-FY22 to modernize the infrastructure and migrate to Internet Protocol (IP) based end points, Telephony is deploying voice and video systems from the Defense Information Services Agency (DISA) Approved Products List (APL).

The Telephony project deploys and/or enables the following capabilities: Session managers for UC services, secure and unclass voice and video conferencing, unclass voicemail, and telephony management services. Telephony works with the Base Communications Office (BCO) to deliver DSN, C2 shore-to-ship dial tone (Plain Old Telephone Service) and pier side lines via tactical networks and infrastructure.

**Status:** Functional

**Resource Sponsor:** N2/N6

**SSP:** 41J2

**Developers:** SPAWAR PEO C4I, PMW 790, San Diego, CA

**Source:** PMW 790

### Teleport Service Procurement Agent (SPA): Project

PMW 790 accomplishes the management, oversight, transition, and coordination of the Navy's service procurement agent portion of the Teleport program in accordance with the PEO/DISA MOA. For procurement and installation efforts, DISA provides the required funding directly to the execution agents (e.g., SSC Charleston).

**Status:** Functional

**Resource Sponsor:** N2/N6

**SSP:** F11B

**Source:** PMW 790

### Teleports: ACAT IAM



DoD Teleport links the satellite communications space segment with the shore infrastructure and provides tactical users with a worldwide communications interface to the global information grid (GIG). Through multiple military radio frequency paths, DoD Teleport provides inter-theater reach-back into the Defense Information Systems Network and service C4I systems,

as well as intra-theater communications support for tactical users. In 2001, DoD designated the Navy as the DoD Teleport requirements sponsor, with the Defense Information Systems Agency as the Teleport executive agent. Teleports are located at six primary sites and one secondary site. The Navy operates and maintains Teleports at Wahiawa, Hawaii; Northwest, Virginia; Lago Patria, Italy; and Bahrain. Non-Navy Teleport sites are located at Fort Buckner, Okinawa, Japan; Camp Roberts, California; and Landstuhl/Ramstein, Germany.

DoD Teleport Generation (GEN) I and II are in sustainment, and GEN III has commenced procurement. GEN III comprises three phases. Phase 1 provides advanced extremely high frequency (AEHF)-capable terminals at the Teleports using the Navy Multi-band Terminal (NMT). Phase 1 reached Milestone C in September 2010, and NMT installs began in the second quarter of FY 2012. Phase 2 upgrades the X/Ka-band terminals, using the Army Modernization Enterprise Terminal to ensure compatibility with the Wideband Global Satellite constellation. Phase 2 went through a successful critical design review in FY 2011. DoD Teleport Gen III Phase 2 reached Milestone C in the third quarter of FY 2012. Phase 3 provides Mobile User Objective System-to-legacy Ultra- High Frequency (MUOS-UHF) interoperability. DoD Teleport GEN III will reach full operational capability in FY 2018.

**Status:** O&S

**Resource Sponsor:** N2/N6

**SSP:** 23K0

**Developers:** Arrowhead, Alexandria, VA

Raytheon, St. Petersburg, FL

ViaSat, Carlsbad, CA

**Source:** PMW 790

### U.S. Naval Observatory (USNO) Network Modernization Project: Project

The scope of the project includes those activities necessary to modernize the USNO network, support migration of USNO-developed software applications, resolve critical cyber security concerns, and establish rigorous CM.

**Status:** Functional

**Resource Sponsor:** N2/N6

**SSP:** E4

**Developers:** Georgia Tech Research Institute, Atlanta, GA

World Wide Technologies, Atlanta, GA

**Source:** PMW 790

### U.S. Naval Observatory (USNO) Precise Time and Astrometric Network: Project

Phase 1 will include Engineering, procurement, integration, testing, and installations of modernized networks as rapidly as possible for 3 locations. The program will use a streamlined Systems Engineering Technical Review (SETR) process to ensure technical rigor in an accelerated environment. Leverage fielded architectures to reduce procurement, integration, test, and IA timelines. In Phase 2, this effort will transition to a Program of Record.

**Status:** Functional

**Resource Sponsor:** N2/N6

**SSP:** E4

**Developers:** Georgia Tech Research Institute, Atlanta, GA

World Wide Technologies, Atlanta, GA

**Source:** PMW 790

### Virtual Secure Enclave (VSE): Project

VSE is an integrated network that resides inside existing tactical networks to enable network defense-in-depth and employ network monitoring tools to detect threat activity and enable continued Command and Control (C2) system services. The VSE project will provide technology refresh of legacy capabilities addressing obsolescence, end-of-life, and maintenance issues to sustain Computer Adaptive Network Defense in Depth (CANDID) system nodes at locations identified during the Joint Capability Technology Demonstration (JCTD) and within the United States Pacific Command (USPACOM) area of responsibility (AoR). VSE will also provide Joint Task Force (JTF) 519 the capability to assure critical C2 services in a cyber-contested environment.

**Status:** Functional

**Resource Sponsor:** N2/N6

**SSP:** F12

**Developers:** Naval Surface Warfare Center,

Panama City, FL

Georgia Tech Research Institute, Atlanta, GA

**Source:** PMW 790





## **PEO Space Systems (SS)**

The following programs and projects are being administered by PEO SS.



## Overview

The Navy Communications Satellite Program Office is responsible for managing narrowband communication satellite systems acquisition, integration, production, launch, and test, and provides operational support to the DoD, various U.S. agencies, and joint and coalition forces.

## Programs

MUOS  
UFO



# PMW 146

## Navy Communications Satellite Program Office

### Mobile User Objective System (MUOS): ACAT IC



The MUOS is a next-generation narrowband tactical communications system that improves communications for U.S. forces on the move. The Navy is responsible for providing narrowband satellite communication for the Department of Defense (DoD). Each Service is responsible for procurement of MUOS-capable terminals. In addition to providing reliable communication for all branches of the U.S. military, Navy-delivered space-based

narrowband capability provided by MUOS also supports reliable worldwide coverage for national emergency assistance, disaster response, and humanitarian relief when these missions are properly equipped and operated within the bounds of information-assurance policies.

MUOS satellites have a legacy ultra-high-frequency (UHF) payload that provides replacement capability similar to legacy UHF satellites, as well as a new MUOS wideband code division multiple access (WCDMA) payload that will provide a significant improvement to the number of simultaneous voice and data services required to meet growing warfighter needs.

The MUOS constellation consists of five geo-synchronous satellites, one of which is an on-orbit spare. The system also includes four ground stations strategically located and interconnected around the globe to provide worldwide coverage and the ability to connect users to DSN (Defense Switch Network), NIPRNET (Non-secure Internet Protocol), and SIPRNET (Secret Internet Protocol Router Network) services. The ground system transports data, manages the worldwide network, and controls the satellites. A new WCDMA waveform provides the interface with MUOS and MUOS-capable user terminals.

The MUOS design leverages commercial technology, providing worldwide netted, point-to-point, and broadcast services of voice, video, and data. Target users are unified commands and joint task force components, DoD and non-DoD agency mobile users who require communications on the move, and allied and coalition legacy users. Legacy narrowband communication

system users have to be stationary with an antenna up and pointed toward a satellite. MUOS will provide more than ten times the worldwide capacity than legacy UHF SATCOM and allow the warfighter to move around the battlespace while communicating.

MUOS was designated a DoD major acquisition program in September 2004. Key Decision Point C occurred in August 2006, and Build Approval was granted in February 2008. The first satellite was launched in February 2012 and was accepted for initial operational use supporting legacy terminal users in November 2012. The second satellite was launched in July 2013 and began providing UHF legacy service in July 2014. MUOS-3 was launched in January 2015 and began providing UHF legacy service in April 2016. MUOS-4 was launched in September 2015 and began providing legacy UHF SATCOM service in August 2016. MUOS-5 was launched in June 2016 and is undergoing on-orbit testing.

U.S. Strategic Command approved MUOS WCDMA Early Combatant Command Use (ECU) in July 2016. During ECU, MUOS WCDMA operations are approved for testing, evaluations, training, exercises, and Concept of Operations development. Standard Combatant Command Acceptance for MUOS

WCDMA full operations are planned for late 2019 after completion of Multi-Service Operational Test and Evaluation-2, projected to conclude by June 2019. MUOS will provide military users simultaneous voice, video, and data capability by leveraging 3G-mobile communications technology. The MUOS constellation is expected to achieve full operational capability in FY 2020, extending narrowband capabilities beyond 2030.

**Status:** P&D, O&S

**Resource Sponsor:** N2/N6

**SSP:** 08P0

**Developers:** Boeing, *El Segundo, CA*  
General Dynamics, *Scottsdale, AZ*  
Lockheed Martin, *Sunnyvale, CA*

**Source:** PMW 146

### Ultra-High Frequency Follow-On (UFO): ACAT IC

UFO is a constellation of eight geosynchronous communications satellites, seven of which are still in operation, that provides legacy tactical narrowband UHF SATCOM to all of the DoD and other government agencies. OMN funding provides In-Service Engineering Agent (ISEA) activities for UFO. ISEA provides

UHF Telemetry, Tracking & Command (TT&C), AN/USC-38 terminal support, fleet support operations, and anomaly resolution; including engineering efforts associated with continuously maintaining a robust worldwide communications capability. The support provided in this program complements the support provided via the Naval Satellite Operations Center (NAVSOC).

The first UFO satellite was launched in 1993 with a payload capable of providing 39 UHF channels, an SHF communications link and an S-band Space Ground Link Subsystem. Later satellites added an EHF package (Block II) and a Global Broadcast System (GBS) package (Block III).

**Status:** O&S

**Resource Sponsor:** N2/N6

**SSP:** 08C0

**Source:** PMW 146







## **PEO Enterprise Information Systems (EIS)**

**The following programs, projects and funded work efforts  
are being administered by PEO EIS.**





# Overview

The Marine Corps System Command Information Systems & Infrastructure Program Office, leads a joint Navy and Marine Corps strategic sourcing effort to consolidate, centralize and streamline the acquisition and management of the DON enterprise software licensing (ESL) agreements.

## Projects

Enterprise Services



# PMM 110

## Marine Corps System Command Information Systems & Infrastructure

### Enterprise Services: Project

Enterprise Services establishes Navy's enterprise-level information technology (IT) services that provide opportunities and enhance user capabilities to meet Navy needs while increasing security and achieving cost efficiencies. Enterprise Services provides the capabilities to manage and deliver the Navy's IT services centrally, enabling it to: reduce total ownership costs; promote information sharing and interoperability in the Department of the Navy (DON) and Department of Defense (DoD); ensure compliance with DoD and congressional IT mandates; and significantly improve the Navy's information assurance (IA) posture. This allows seamless access to resources no matter where they connect to the Navy or DoD. Initial efforts in Enterprise Services focus on consolidating data centers, as well as establishing enterprise software licensing agreements. Managing services at the enterprise level provides an opportunity to eliminate stovepipe systems that do not communicate with each other and enhance the Navy warfighters' capability to access mission critical information. The DON has

made significant progress eliminating legacy networks, servers, systems, applications, and duplicative data environments. These Enterprise Services will be leveraged across the DON and joint partners to provide seamless connectivity to mission-critical information. Future technological demands warrant higher levels of interoperability with our joint partners and allies to achieve operational efficiency and success. Enterprise Services are critical enablers to help the DON achieve information warfare, offering significant advantages operationally while enhancing our cyber security posture.

The Navy established enterprise service license agreements with major software manufacturers starting in FY 2012. ESL is a strategic effort to leverage the combined buying power of the Navy and Marine Corps to improve the DON's IT/cyberspace investment decision practices by providing DON enterprise-level evaluation and management.

**Status:** N/A

**Resource Sponsor:** N2/N6 and USMC C4

**SSP:** 34E0

**Developers:**

Various, Developers (publishers and resellers) with awarded contracts announced at <https://navy.deps.mil/peoeis/sites/pmm110/default.aspx> (CAC required)

**Source:** PMM 110



## Overview

The Naval Enterprise Networks Program Office unifies the DON's shore-based networks and data management to improve capability and service, while saving significant dollars by focusing efforts under one program office and one enterprise network construct.

### Programs/Projects

BLII/OCONUS ONE-NET  
NGEN/NMCI



## PMW 205

### Naval Enterprise Networks (NEN)

#### Base Level Information Infrastructure (BLII)/OCONUS Navy Enterprise Network (ONE-NET): Project

The outside of the continental United States (OCONUS) Navy Enterprise Network (ONE-NET) provides the manpower and administration services to operate the Base Level Information Infrastructure (BLII) architecture, a fully integrated and interoperable network that consists of standard hardware, software, and information-assurance suites governed by operational and administrative policies and procedures. ONE-NET is the OCONUS equivalent to the Navy's CONUS-based Enterprise Services and is the medium that enables the rapid and reliable transfer of official classified and unclassified messages, collaboration, e-mail, and data. ONE-NET manpower provides information technology operations including e-mail, print, storage, directory, and Internet services, as well as help desk and enterprise management for approximately 28,000 seats, delivering vast performance and security improvements compared to legacy networks. ONE-NET manages the enterprise through three Theater Network Operation and Security Centers (TNOSCs) at Yokosuka, Japan; Naples, Italy; and Bahrain; in addition to 11 Local Network Support Centers (LNSCs) within their respective regions.

The program provides IT services to approximately 28,000 BLII/ONE-NET seats, supporting approximately 51,000 forward-deployed OCONUS Navy users. Fleet Cyber Command operates the three TNOSCs and

11 LNSCs servicing ONE-NET customers. The network is operated and maintained by a blended workforce of active duty, civilian, and contractor personnel. This program is expected to transition into the Next-Generation Enterprise Network contract no later than early FY 2018. This merger will realize cost savings associated with a centrally funded and managed program, and reduce costs associated with multiple program management functions and service providers.

**Status:** N/A

**Resource Sponsor:** N2/N6

**SSP:** 27J1/41J0

**Developers:** Computer Sciences Research Associates (CSRA), Falls Church, VA

**Source:** PMW 205

#### Next Generation Enterprise Network (NGEN): ACAT IAC Navy Marine Corps Intranet (NMCI): ACAT IAM

The NMCI is the DON's shore-based enterprise network in the continental United States and Hawaii, providing a single integrated, secure information technology (IT) environment for reliable, stable information transfer. NMCI represents about 70 percent of all DON IT operations and is second only to the Internet in size. NMCI revolutionized the way the DON does business in both classified and unclassified environments. It brought standardization to network operations, data security, technical support and real-time communications across every level of the Navy and Marine Corps by establishing common hardware,



software and operating systems.

NGEN Increment 1 is the first increment of the acquisition program that is the follow-on to the Navy Marine Corps Intranet (NMCI). In its complete form, NGEN provides secure, net-centric data and information technology (IT) services and support to the United States Navy (USN) and United States Marine Corps (USMC). To the maximum extent practicable, NGEN Increment 1 incorporates commercial off-the-shelf (COTS), Government off-the-shelf (GOTS) products and Non-Developmental Items (NDI). NGEN Increment 1 includes the capabilities of NMCI on 30 September 2010, with increased government operational and design control of the networks, and requisite Information Assurance (IA) enhancements to meet evolving security requirements. Similar to NMCI, NGEN Increment 1 continues to expand through migration of legacy networks, to include the Outside the Continental United States (OCONUS) Navy Enterprise Network (ONE-NET) to the same capabilities as Increment 1 where approved and funded. NGEN supports net-centric operations and positions the DON for transition to the Naval Networking Environment (NNE) vision for 2016. NGEN

forms the foundation for the NNE, and is interoperable with, and leverages, other DoD-provided Net-Centric Enterprise Services (NCES). NGEN changes the previous contractor-owned/contractor-operated paradigm under NMCI Continuity of Services Contract (CoSC), to a government-owned/contractor-operated program for Navy, with the Navy assuming command and control of the network with enhanced information assurance.

The NGEN contract was awarded in June 2013; the contract award was protested July 2013; and the protest was denied and award upheld at the end of October 2013. The NMCI CoSC provided NMCI services through September 30, 2014. The Navy transitioned to NGEN services on October 1, 2014, and final transition was achieved in December 2014.

**Status:** O&S

**Resource Sponsor:** N2/N6 and HQMC

**SSP:** 27J1

**Developers:** NGEN: HP Enterprise Services, Plato, TX

**Source:** PMW 205





## Overview

Navy Enterprise Business Solutions is an integrated business management system that incorporates both Navy ERP and the E-Business and Electronic Procurement System EPS, providing unprecedented management visibility across the enterprise and increasing effectiveness and efficiency. The program is transforming how the Navy manages its people, money, programs, equipment, and supplies.

### Programs/Projects

ePS  
Navy ERP  
SLDCADA



NAVY ENTERPRISE  
BUSINESS SOLUTIONS

## PMW 220

### Naval Enterprise Business Solutions (NAVEBS)

#### Electronic Procurement System (ePS): Pre-ACAT (IAM Planned)

The ePS is the DON's End-to-End (E2E) Contract Writing System (CWS). It will provide the Navy and Marine Corps contracting community with a full contract writing management capability and facilitate integration with federally mandated systems, DON financial systems, and industry. The ePS will utilize Department of Defense (DoD) standards and support auditability. The ePS will address existing CWS challenges including outdated architecture, limited capabilities, scalability concerns, and existing legacy systems.

The ePS will provide the DON with standardized, comprehensive E2E contract management (i.e., sourcing) of services, supplies, and construction. The ePS will also support mission-related assistance using assistance agreements, such as grants and will deliver the following functional/technical capabilities: Provide robust functional capabilities to support the E2E Procure-to-Pay (P2P) process; Capture data at the source (i.e., no redundant data entry via touch labor); Leverage a data-centric and standard-compliant design for data storage and exchanges; Enforce business process controls and system controls to support an unqualified audit opinion; Inform decision making through available, accurate, timely, and visible reporting; Comply with DON-specific architecture and environmental constraints (e.g., Navy Marine Corps Intranet (NMCi)); Deliver a flexible solution that allows prompt and cost-effective changes; Support 100% of the DON contracting actions in a fully auditable and traceable

environment; Provide a secure computing environment that implements critical security controls and capabilities.

The ePS will serve as the DON's system of record for the official contract file. The system will have the flexibility to interface with Navy, DoD, and Federal electronic systems as needed to meet the requirements of all stakeholders, and as defined in statutes, regulations, and approved business practices. Data captured through system automation and distributed through interface transactions are critical elements in supporting the DON's Financial Improvement Program (FIP) and in enabling DON's vision of clean financial statements.

**Status:** MSA

**Resource Sponsor:** N4

**Source:** ePS Acquisition Strategy/Acquisition Plan (AS/AP)

#### Navy Enterprise Resource Planning (Navy ERP): ACAT IAM

Navy ERP is a comprehensive management system used to execute an organization's crucial business functions. The Navy ERP solution allows the Navy to unify, standardize, and streamline all of its business activities into one system that delivers information that is secure, reliable, accessible, and current. The solution enables sustained Navy compliance with the Chief Financial Officers Act of 1990 and the Department of Defense Information Assurance Certification and Accreditation Process. Navy ERP was delivered in two releases.

The Finance/Acquisition Solution (Release 1.0) provides the Navy with unprecedented



financial transparency that can be leveraged across the Navy as a common cost-management framework. This release provides the Navy with an enterprise solution that supports budgeting, billing, external procurement, period closeout, business warehousing, and cost planning.

The Single Supply Solution (Release 1.1) delivers enterprise visibility and process standardization of the Navy Supply Chain. The Single Supply Solution provides an integrated capability from global planning to local inventory handling, enabling the Navy to optimize positioning of stock which improves fleet readiness and maximizes the use of supply funds and assets. More specifically, the Single Supply Solution supports such functions as order fulfillment, inventory management, consignment, warehouse management, provisioning, carcass tracking, supply outfitting, and supply and demand planning.

Navy ERP combines Business Process Reengineering and industry best practices, supported by commercial off-the-shelf software to integrate all facets of Navy business operations, using a single database to manage shared common data.

Navy ERP Finance/Acquisition Solution has been deployed to the following commands: Naval Air Systems Command (2007); Naval Supply Systems Command (2008); Space and Naval Warfare Command (2009); Naval Sea Systems (NAVSEA) Command General Fund (2010); NAVSEA Working Capital Fund (2011); Office of Naval Research (2012); and Strategic Systems Programs

(2012). Initial operational capability was achieved in May 2008. In October 2008, the Assistant Secretary of the Navy (Financial Management and Comptroller) designated Navy ERP as the Navy's Financial System of Record. The Navy ERP Single Supply Solution deployment began in February 2010; and has been successfully deployed to the Naval Supply Systems Command (NAVSUP) Weapon Systems Support at Philadelphia and Mechanicsburg, Pennsylvania. The regional implementation of the Single Supply Solution to the NAVSUP Fleet Logistics Centers was completed in August 2012. Navy ERP attained full deployment declaration by the Under Secretary of the Navy in December 2013. Navy ERP has up to 72,000 users and manages approximately 52 percent of the Navy's Total Obligation Authority.

**Status:** O&S

**Resource Sponsor:** N4

**Developers:** IBM, Armonk, NY  
SAP America, Inc., Newtown Square, PA

**Source:** PMW 220

### Standard Labor Data Collection and Distribution Application (SLDCADA): Project

SLDCADA is a Government off-the-shelf (GOTS) developed Time and Attendance System that has been chosen as the Department of the Navy standard. It is a web-based timekeeping system that allows for centralized or distributed input, and provides the capability to track civilian,

military and contractor hours against job order numbers and type hour codes for financial and pay purposes. Providing a single Time and Attendance screen for input, certification, and correction, ultimately reducing the training effort, and eases user input for over 106,000 users across the United States Navy, Marine Corp, and the Executive Office of the President.

SLDCADA interfaces with major payroll/ financial systems, such as Defense Civilian Pay System (DCPS), Defense Industrial Financial Systems (DIFMS), Standard Accounting and Reporting System-Field Level (STARS-FL), and Standard Accounting and Reporting System - Headquarters (STARS-HQ). SLDCADA is parameter driven so it can be tailored to meet individual site requirements. The recent upgrade to V23.08 included migration of several reports from Discoverer to the SLDCADA reports menu. Their previous titles in Discoverer and their new locations in SLDCADA can be found at <https://www.sldcada.disa.mil/>

**Status:** N/A

**Resource Sponsor:** N41

**Source:** PMW 220







## Overview

The Sea Warrior Program manages a complex portfolio of information technology systems that enable the Navy to support Navy human resource management, criminal justice, fleet support, afloat business applications, Navy and DoD portfolio management, DON administration, and joint aviation aircraft scheduling.

### Programs/Projects

ARM  
ADE  
BBD  
CMS-ID  
DITPR/DADMS  
DON TRACKER  
iNAVY  
ILE/LMS  
JALIS  
Learning Content Services  
MRRS  
Mobile App Development  
MNP 2a/b/c  
NJIS  
NAVY 311  
NeL  
NIAPS  
NMRS  
NMPDS  
NSIPS  
NTMPS  
PRIDE  
PERSYS  
Reserve Force Systems  
RMI  
TFMMS



## PMW 240

### Sea Warrior Program (SWP)

#### Application Relationship Management (ARM): Project

ARM is the continuation of an effort in support of the OPNAV N156 Accessions Information Technology (IT) Roadmap objectives to modernize and consolidate command IT systems and networks. In support of Navy Recruiting Command's (NRC) RF2030 goals, ARM provides prospecting functionality for more than 4,000 recruiters in multi-mission recruiting stations by providing the ability to recruit across all mission areas anytime and anywhere.

ARM is an applicant prospecting tool that allows recruiters to more effectively manage an individual through the Navy recruiting process, from lead to prospect to application submission, by providing transformational change in the areas of Contact Management, Application Management, Time Management, and Delayed Enlistment Program (DEP) Management. It interfaces to the future Personalized Recruiting for Immediate and Delayed Enlistment Modernization II (PRIDE Mod II) system, which integrates active and Reserve, Officer and enlisted processing.

It is estimated that total cost avoidance to the Navy from ARM exceeds \$32 million over the projected life cycle. ARM results in significantly improved processes, which in turn allows recruiters to find and recruit higher quality applicants more efficiently. This results in more successes and fewer losses, which improves the efficacy and efficiency of the prospecting processes and recruiting and accessions overall. Ultimately, ARM provides recruiters improved

processes together with a feature-rich tool set that improves productivity and maximizes recruiters' most scarce resource – time.

**Status:** Exploratory  
**Resource Sponsor:** N1  
**Source:** PMW 240

#### Authoritative Data Environment (ADE): Project

ADE is a program that provides a single, integrated authoritative data source for Navy Manpower, Personnel, Training, and Education (MPTE) data. It provides the foundation for a reliable, accurate, and timely data set that is governed at an enterprise level and accessible to all authenticated data customers, and is the authoritative source of information for other applications and systems.

The ADE consists of three major parts: the Data Management and Governance Structure, the Authoritative Data Warehouse (ADW), and the Enterprise Service Bus (ESB). The ADW holds the authoritative data. The ESB serves as a data transport mechanism for MPTE data between systems or from the ADW to other systems. The Governance Structure makes sure that the data sources are proper and that changes made to the ADE are appropriate and correctly accomplished.

**Status:** Functional  
**Resource Sponsor:** N1  
**Source:** PMW 240

## Billet Based Distribution (BBD): AAP

The BBD initiative is focused on enabling the Navy to better manage force structure and readiness by more accurately matching sailors and their unique skill sets to individual billets. The metric supporting this process is called “Fit” across the Navy. Additionally, BBD will upgrade software programs used in enlisted distribution and provide accurate and timely manning information in a Web-based environment to fleet personnel managers. The foundation of the technical solution is the Career Management System – Interactive Detailing (CMS-ID).

BBD will provide Navy personnel billet assignments to meet the Global Force Management Data Initiative (GFM DI) and Defense Readiness Reporting System–Navy (DRRS-N) requirements for Active Component (AC) enlisted and Full Time Support (FTS) personnel and billets.

Current requisition generation and distribution processes use an inventory-based system that does not fully reflect the billet level needs of Navy commands or accurately identifies the sailor’s current assigned position. This hinders the ability to accurately measure or ensure personnel readiness, leaving gaps in the skills-to-position requirements, referred to as the “Fit.”

The BBD solution will allow resource managers, distribution stakeholders and leadership to effectively manage “Fit” by aligning personnel to positions and make better informed personnel distribution decisions to improve efficiency. BBD’s real-time strategy will result in better fleet readiness indicators.

BBD will replace the current inventory-based requisition generation process with automated functionality that is requirements-driven, inventory-balanced, and position-based. BBD will allow commands and distribution personnel to more reliably assess a vacant position’s impact on readiness. Ultimately, BBD will promote improved readiness across the fleet.

**Status:** TM&RR  
**Resource Sponsor:** N1  
**Source:** PMW 240

## Career Management System – Interactive Detailing (CMS-ID): Project

The purpose of the CMS-ID is to advertise to the fleet the available jobs (requisitions or billets) and assignment possibilities to all Navy enlisted personnel (Active and Reserve). The system provides sailors the

capability to research and apply for jobs that best match their individual career desires with the Navy’s readiness and resource needs.

CMS-ID is a core Navy career management application used by sailors, career counselors, and Assignment and Distribution personnel. The application is part of a larger suite of Information Technology (IT) tools that help sailors invest in and direct their own careers, education, and professional development.

In addition, CMS-ID is the foundation of the Billet Based Distribution (BBD) initiative focused on enabling the Navy to better manage force structure and readiness by more accurately matching sailors and their unique skill sets to individual billets. This approach seeks to clearly track the position an enlisted sailor is filling at a command and account for personnel allocation, leading to a more accurate job requisition and distribution process.

CMS-ID enables sailors to take an active role in their professional development and career management. Sailors discuss their career goals with their career counselors to receive support and guidance. Sailors are allowed to submit up to five online job applications per cycle. The applications then are compiled and made available to the prospective commands for review and comment before detailers and assignment coordinators evaluate applications and make assignment selections.

CMS-ID directly supports the Navy’s Distribution line of business. It provides an integrated web-based architecture that contains critical functionality for the distribution and assignment process for Active and Reserve Component enlisted personnel.

**Status:** Functional  
**Resource Sponsor:** N1, DNS  
**Source:** PMW 240

## DoD Information Technology Portfolio Repository (DITPR)/DON Applications and Database Management System (DADMS): Project

DoD DITPR/DON DADMS are the DoD and DON Information Technology registry systems. DITPR is used by all DoD components to maintain a comprehensive, consolidated inventory of unclassified, mission-critical and mission-essential systems (including National Security Systems) and their interfaces. DITPR supports IT investment review and portfolio management.

DADMS is the DON’s authoritative data source for system, application, database, network, and server information. DADMS supports IT baseline and cost control efforts assigned to the Office of the Chief of Naval

Operations by the Vice Chief of Naval Operations. DADMS serves as the platform for the DITPR-DON, the DON’s feeder system to DITPR.

**Status:** Functional  
**Resource Sponsor:** SRB  
**Source:** PMW 240

## Department of the Navy (DON) Tasking, Records, and Consolidated Knowledge Enterprise Repository (TRACKER): Project

The SECNAV has directed a single, auditable, compliant records management (RM) and task management (TM) process implemented uniformly across and within all DON divisions and commands, enabling efficient and effective execution of RM and TM in accordance with applicable statute, policy, and regulation. DON TRACKER is a single enterprise solution to replace multiple legacy Navy and Marine Corps TM and RM applications and processes. Currently, the DON is using more than 20 different TM and RM systems, including five large-scale standalone IT solutions. While this approach may serve individual commands and directorates, it is no longer viable for the DON enterprise. The DON’s need to reduce cost and increase operational efficiency necessitates a unified and scalable solution.

TRACKER is a single, web-based solution comprising enterprise information services, common business rules and processes, consistent task and record terminology, user training aids, and Common Access Card (CAC) authentication. Current multiple disconnected systems will be replaced when TRACKER is deployed in the NIPR environment to CONUS and OCONUS ashore commands.

DON TRACKER is a collaborative effort involving the DON Assistant for Administration, DON Chief Information Officer (DON CIO), Director Marine Corps Staff (DMCS), Director of Navy Staff (DNS), and the Sea Warrior Program (PMW 240) within the PEO EIS. The DON TRACKER software employs the Alfresco Enterprise Edition platform. The design prototype began in May 2013 and development began in March 2014. Users provide feedback via incremental software demonstrations called sprints. DON TRACKER Release 1.0, the Initial Operating Capability (IOC), began a phased rollout in Q1FY16.

**Status:** Exploratory  
**Resource Sponsor:** SRB  
**Source:** PMW 240

## iNAVY: Project

iNAVY is a Navy-wide Portal solution providing a collaborative framework to enhance business functions. As an enterprise initiative, iNAVY empowers organizations and communities of interest to interact through a single platform. iNAVY empowers the organization with automated business processing, collaborative document exchange, robust data management capabilities, and significant improvements in knowledge management and information discoverability. The platform can be harnessed in countless ways to improve responsiveness by the Navy community to fulfill mission requirements.

**Status:** Functional

**Resource Sponsor:** N2/N6

**Developers:** Microsoft Corporation, Reston, VA

**Source:** PMW 240

## Integrated Learning Environment (ILE)/Learning Management System (LMS): Project

LMS and ILE are the backbone of Navy e-learning, by streamlining training processes and enabling the delivery, administration, documentation, tracking and reporting of online educational courses and training programs. It provides the sailor with an integrated system that offers a common user interface for multi-purpose access devices to support learning across career continuums.

**Status:** Functional

**Resource Sponsor:** N1

**Source:** PMW 240

## Joint Air Logistics Information System (JALIS): Project

The JALIS is an information management system used by the Joint Warfighter to request and schedule airlifts for high-priority passengers and cargo in support of combat or contingency operations. JALIS also collects post-mission data to support enterprise management decisions. JALIS stakeholders include all Unified Commands, Services, air wings, and squadrons that provide air assets in support of OSA (Operational Support Airlift) requirements.

**Status:** Functional

**Resource Sponsor:** N98

**Source:** PMW 240



## Learning Content Services: Project

LCS are employed by thirteen Specialized Skill Learning Centers and their training sites, three direct report schools, and three Training Support Centers located throughout the country. LCS provides the Navy the ability to manage, measure, and administer all learning activities and training processes used in support of Navy enlisted, officer, and civilian personnel. The LCS is an integral element of the Integrated Learning Environment (ILE).

**Status:** Functional

**Resource Sponsor:** N1

**Source:** PMW 240

## Medical Readiness Reporting System (MRRS): Project

The MRRS is a comprehensive mission-critical tracking system for immunizations and Individual Medical Readiness (IMR) used by the United States Navy, Marine Corps, and Coast Guard. MRRS is a Web-based, real-time application with links to the existing authoritative data systems of the Navy Standard Integrated Personnel System (NSIPS), Reserve Headquarter System (RHS), Coast Guard Business Intelligence (CGBI), and the Marine Corps Total Force System (MCTFS). These system interfaces enable the Navy to reduce data input requirements, improve data accuracy, and track personnel.

MRRS provides leadership with command and control visibility of force medical readiness, at the individual, unit, command and headquarters level to ensure that combat-ready personnel can rapidly respond to emergent missions. The system

gives headquarters staff and leadership a real-time view of immunization status and force medical readiness. MRRS captures and maintains medical, immunization, injury management, and medical readiness information relating to all Navy, Marine and Coast Guard personnel.

Features of MRRS include; accurately meets Office of the Secretary of Defense (Health Affairs) (OSD(HA)) quarterly IMR reporting requirements, stores historical immunization data, contains pre-populated medical and dental forms, and reports anthrax and smallpox immunization data to the Military Vaccine Agency, tracks, schedules, and documents various medical requirements including notification of required physicals, immunizations, and dental exams. MRRS maintain information on medical testing (current and history). Enables ability to accurately meet Office of the Secretary of Defense (Health Affairs) quarterly IMR reporting requirement, meets mobilization and readiness requirements more effectively and efficiently, provides full visibility on medical status of deploying forces, provides Headquarters and OSD the ability to access and report at all echelon levels in real-time. MRRS also track Mental Health Assessment status, Traumatic Brain Injury, and Neurocognitive Assessment Tool and maintains links with BUPERS Online (BOL) and Marine Online (MOL) which allow members to review their medical readiness status or their Post-Deployment Health Reassessment (PDHRA).

**Status:** Functional

**Resource Sponsor:** N1

**Source:** PMW 240



## Mobile App Development: Project

In response to the modern needs of the DON, the Sea Warrior Program has built a process for the rapid development and deployment of mobile apps for the Navy. Apps allow the Navy to take advantage of mobile devices for sailor self service functions. It increases the reach of training and information to sailors, giving them more options to independently manage their careers. Apps currently deployed are designed to run on a sailor's personal device and contain no sensitive information or personally identifiable information (PII).

The first app produced by PMW 240, eDIVO, was created as a prototype. The app was designed using an agile development process and was released in a seven month time frame. Over those months the process was codified into a repeatable and customizable process with a quicker timeline for future apps.

PMW 240 Apps include eDIVO, Final Multiple Score (FMS) Calculator, New to the Navy, Navy COOL, Lifeskills Reachback, Domestic Violence Prevention (GMT), Naval OPSEC, Records Management (GMT), and Personally Identifiable Information (PII) (GMT).

**Status:** N/A  
**Resource Sponsor:** N1  
**Source:** PMW 240

## My Navy Portal (MNP) 2a/b/c: Project

MNP is a program to build an integrated web portal that consolidates the Navy's Human Resource (HR) portals, knowledge, and applications into a consolidated and simplified user experience. When completed, MNP will provide a single point of entry for sailors to manage and view their personnel and career information within an intuitive "self-service" environment. MNP will officially deploy (with a baseline capability) to the entire Navy by summer 2016. Initially, MNP will not contain all of a sailor's records and data, but after initial release, capabilities will be added incrementally, rolling out additional releases and updates every 2-3 months. By FY19, all of a sailor's personnel, training, and education records and data will be available in MNP for one-stop-shop capability.

**Status:** Exploratory, Functional  
**Resource Sponsor:** N1  
**Source:** PMW 240

## Naval Justice Information System (NJIS) Phase 1 and 2: AAP

The NJIS will be a web-based system that provides access to 50,000 Navy and

Marine Corps users worldwide and serves as the DON end-to-end criminal justice case management system. As a result, the following four primary legacy systems are planned to be retired or consolidated as part of the effort; Consolidate Law Enforcement Operations Center (CLEOC), Corrections Management Information System (CORMIS), Case Management System (CMS), and Case Management Tracking Information Systems (CMTIS).

The first goal is to meet the congressionally mandated Defense Incident Based Reporting System (DIBRS) requirements as stated in Department of Defense mandate 7730.47M, to ensure timely and accurate reporting of all DON criminal activity, including all Uniform Code of Military Justice (UCMJ) violations, to Defense Management Data Center (DMDC), and the total DON Law Enforcement and Investigations incidents reported is projected to go from 35% (as of October 2012) of current incidents being reported to 100% of all DON incidents being reported, including incidents that occur at the Command with no Law Enforcement/Investigations involvement. All DON criminal justice communities will be able to report incident data to DIBRS using one single system as an entry point.

The second goal is to provide the DON with a singular entry point for end-to-end case data that will allow all DON criminal justice communities complete visibility over case information, modernize the DON's criminal justice reporting process, providing enterprise and process-wide visibility into incident and case data throughout the lifecycle of the DON's unclassified criminal justice incidents and to provide DON senior leadership visibility and improved metrics reporting for incident and case data throughout the case life cycle.

**Status:** P&D, O&S  
**Resource Sponsor:** SRB  
**Source:** PMW 240

## NAVY 311: Project

NAVY 311 is a single point of customer service entry into the shore infrastructure and network of fleet support providers. Through NAVY 311—via phone, email, web, text, chat, and other channels—the fleet, sailors, military families, and civilians can get on-demand information assistance for non-emergency, non-tactical issues. The NAVY 311 capability is modeled after "3-1-1" nonemergency services in over 300 major cities worldwide and builds upon the existing infrastructure that has supported the Navy's Global Distance Support Center (GDSC) since 1999.

NAVY 311 is not a new service, but rather

a new name for the Customer Relationship Management (CRM) component of the Navy's Distance Support (DS) capability 1 sponsored by OPNAV N4 and managed by the Sea Warrior Program. As such, NAVY 311 simplifies help desk access and easily identifies this assistance from among the many other important fleet DS services. Many forward-thinking government organizations and municipalities are using centralized "3-1-1" call centers to cost-effectively expand citizen services and streamline operations. In the same manner, NAVY 311 is focused on achieving fleet customer service excellence through modern technology, timely feedback, and increased operational efficiency.

**Status:** Functional  
**Resource Sponsor:** N4  
**Source:** PMW 240

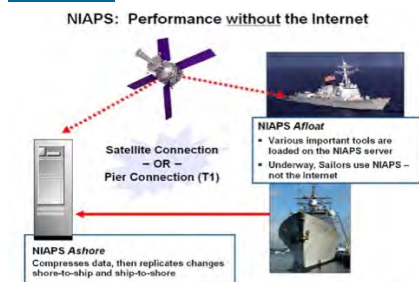
## Navy e-Learning (NeL): Project

LMS-DL, known to fleet users as Navy e-Learning (NeL), provides integrated delivery of training for the Naval Education and Training Command (NETC) in support of Manpower, Personnel, Training and Education (MPT&E) organizations. NeL is one of the largest distance learning environments in the world, with a comprehensive catalog of 12,500 distance learning course offerings, available 24/7 to 740,000 registered users and consists of a Learning Management System (LMS) that uses web-enabled technology to deliver self-paced electronic course materials. Through NeL integrations, training is offered within unclassified (NIPRNet), classified (SIPRNet), and onboard military vessels (Afloat).

The Navy's distributed training environment is ever-expanding with dynamic needs and NeL has continued to keep pace with these changing requirements. The August 2013 deployment of a modernization initiative known as the Enterprise Training Management Delivery Systems (ETMDS) updated existing shore-side capabilities for training delivery and improved workforce management and development. The entire modernization effort, that included subsequent phases, resulted in the current hardware configuration, which is a much smaller IT footprint, and application user interface with more modern look and feel that is seen today.

**Status:** Functional  
**Resource Sponsor:** N1  
**Source:** PMW 240

## Navy Information Application Product Suite (NIAPS): Project



The NIAPS is a Navy-wide Information Technology infrastructure linking business applications, equipment, people, and processes ashore and afloat. Applications benefit from the replication and data compression services NIAPS provides, resulting in more efficient bandwidth utilization. NIAPS is a critical enabler for the Littoral Combat Ship Concept of Operation.

The primary obstacle to Internet access at sea is limited bandwidth, which is the quantity of data that can be transmitted during a fixed period of time. The Navy Information Application Product Suite (NIAPS) addresses this issue by hosting critical applications and data locally on internal shipboard networks. NIAPS comprises over 40 applications and databases launched from a single Distance Support (DS) portal. NIAPS runs applications specifically tailored to individual afloat units for training, career management, maintenance, technical drawings, logistics, human resources, as well as morale and welfare support, all of which are produced by over 20 different Navy functional organizations. Keeping these applications operationally available is a daunting challenge that falls to a key individual on each ship, the NIAPS System Administrator. NIAPS is important to the fleet because it is faster and less expensive than external bandwidth and satellite time. Currently 232 platforms use NIAPS on both classified and unclassified networks.

**Status:** Functional  
**Resource Sponsor:** N2/N6  
**SSP:** 27F1  
**Source:** PMW 240

## Navy Manpower Requirements System (NMRS): Project

NMRS is a decision-support information system that provides a suite of tools to determine manpower requirements for varying workload volumes under differing levels of capability and conditions of readiness as defined by Required Operational Capability/Projected Operational Environment

(ROC/POE) and/or Mission Statements. The Facilities Maintenance Workload Analysis Program (FMWAP) application and the Squadron Required Operational Capabilities (ROC)/Projected Operational Environment (POE) Preprocessor System (SRPPS) reside within the NMRS system.

**Status:** Exploratory, Functional  
**Resource Sponsor:** N1  
**Source:** PMW 240

## Navy Military Personnel Distribution System (NMPDS): Project

The NMPDS project is a collection of 5 systems supporting Navy personnel distribution and fleet readiness while assisting Navy planners in maintaining a flexible readiness posture. NMPDS provides the Navy Personnel Command (NPC) the ability to assign and distribute personnel and produce orders based on required training and job selection for all active enlisted and officer personnel. NMPDS provides current information to the Manning Control Authorities (MCAs), NPC, Fleet Forces Command (FFC), and Commander, Navy Reserve Force (COMNAVRESFOR) essential for personnel manning and readiness.

**Status:** Functional  
**Resource Sponsor:** N1  
**Source:** PMW 240

## Navy Standard Integrated Personnel System (NSIPS): Project

The NSIPS is the Navy's single, field-entry, electronic pay and personnel system for all active duty and Reserve sailors. This Web-enabled, Enterprise Resource Planning (ERP) system supports approximately 400,000 sailors world-wide, ashore and afloat. Sailors have 24-hour access to their Electronic Service Record (ESR), training data, and career development records. NSIPS interfaces with 44 systems, contains 67,000 business rules, and processes approximately 225 million transactions per year. NSIPS has enabled the Navy to: Eliminate eight legacy human resources management systems, eliminate the need for local personnel detachments and management sites to maintain legacy hardware and/or human resources software, and automate application updates via one Web server, eliminating the need to send software updates to the individual personnel processing locations around the world.

**Status:** Functional  
**Resource Sponsor:** N1  
**Source:** PMW 240

## Navy Training Management and Planning System (NTMPS): Project

The NTMPS suite of applications provides users the tools needed to access Manpower, Personnel, Training, and Education (MPTE) data via standard or ad hoc reports. NTMPS is the umbrella term used to describe the Data Warehouse (DW)/Operational Data Store (ODS) and suite of applications and business solution tools. NTMPS supports management of Navy Total Force (NTF) assets and requirements analysis by senior and mid-level management personnel including the Naval Education and Training Command (NETC), U.S. Fleet Forces Command (USFFC), NTF activities, and other Navy activities. NTMPS DW/ODS integrates MPTE data from over 30 approved data sources. The DW/ODS provides a centralized source of integrated and trusted data to satisfy a wide variety of MPTE needs throughout the Navy and is the source of data for the NTMPS suite of applications, which include Fleet Training Management and Planning System (FLTMPS) (afloat and ashore), Electronic Training Jacket (afloat and ashore), and NTMPS Afloat (NAFL) DataMart.

**Status:** Functional  
**Resource Sponsor:** N1  
**Source:** PMW 240

## Personalized Recruiting for Immediate & Delayed Enlistment (PRIDE): AAP

The PRIDE system is one of six legacy systems supporting the mission of the Navy Recruiting Command (NRC). PRIDE supports the process of bringing new recruits into the Navy and assigning them to Navy positions.

The PRIDE Modernization (PRIDE Mod) effort is an integral component of the Recruiting Force 2030 (RF2030), the Navy Recruiting Command's strategic plan to transition from pre-Information Age systems and processes to modern tools that facilitate "anytime, anywhere" recruiting.

PRIDE Modernization Phase II: Efforts continue to build on PRIDE Mod as an important IT foundation for the Recruiting Force 2030 strategy. Future PRIDE Mod capabilities include implementing electronic forms technology, biometric signatures, workflow management tools for paperless processing, integration of officer and enlisted active and Reserve component processes, and data exchanges with the U.S. Military Entrance Processing Command (USMEPCOM), Recruit Training Command, and Navy Personnel Command (NPC).



**Status:** O&S  
**Resource Sponsor:** N1  
**Source:** PMW 240

## Personnel Systems (PERSYS): Project

PERSYS is the Navy corporate source for active duty enlisted and officer personnel data. It provides primary interfaces to the Defense Finance and Accounting Service (DFAS) for military pay and allowances and provides for officer and enlisted promotion management. PERSYS plays a vital role in ensuring that over 400,000 enlisted and officer sailors are gained, paid, and promoted in a timely manner. PERSYS is comprised of NES, OPINS, NPCR, Departmental, NPDB, and PS OPAS.

**Status:** Functional  
**Resource Sponsor:** N1  
**Source:** PMW 240

## Reserve Force Systems: Multiple Projects

The Reserve Force Systems are a collection of manpower and personnel systems (NROWS, RHS, RIMS-FM, IMAPMIS, and EDM) that support the Navy's Reserve Forces by performing several functions including order writing, billet and unit management, drill management, mobilization management, data collection and dissemination, personnel pay management, training management, and financial management.

The Naval Reserve Order Writing System (NROWS) is the Web-based application for assigning a Reservist Annual Training (AT), Active Duty Training (ADT), and Inactive Duty Training Travel (IDTT) orders. It enhances the orders application process with an automated approval workflow and by incorporating Reserve Personnel, Navy (RPN) budgeting and approval and the delivery of official orders and travel itineraries. It provides total visibility for order history, current Reserve activities, and information on total force readiness and availability for operational planning through the entire Navy Reserve Force community.

Reserve Headquarters Support (RHS) is a Commander Navy Reserve Force (CNRF) system used in the data collection and dissemination process necessary for command and control of Selected Reserve (SELRES). RHS supports the Navy Reserve functional areas of manpower, personnel, billet and unit management, mobilization management, personnel pay management, and training management.

Reserve Integrated Management System-

Financial Management (RIMS-FM) is a mission-critical application created to manage those funds appropriated by Congress to the Navy Reserve. RIMS-FM manages all detail documents in order to determine when to send accounting transactions to the Program/Budget Information System for Information Technology (PBIS IT). It processes the amount set aside to fund training for reservist orders, and changes to the reserved amount resulting from modifications to orders. The system gives management visibility of projected spending for the fiscal year to properly and effectively manage the RPN appropriation.

Inactive Manpower and Personnel Management Information System (IMAPMIS) is the corporate database for the Navy's Inactive Reserve. It maintains 850,000 master personnel records Selected Reserve, Individual Ready Reserve (IRR), Standby Reserve, United States Navy (USN) Retired, and United States Navy Reserve (USNR) Retired. IMAPMIS supports IRR mobilization readiness and personnel data reporting, and is the primary source for Navy Reserve strength accounting. The system accumulates participation information to determine Reserve members' eligibility for retirement and delivers Annual Retirement Point Records (ARPR) and Notices of Eligibility (NOE) to members.

**Status:** Functional  
**Resource Sponsor:** N1, DNS  
**Source:** PMW 240

## Risk Management Information (RMI): AAP

RMI is the DON strategy, endorsed by the Assistant SECNAV for Energy, Installations and Environment, for a single Program of Record for Safety to improve the quality and accessibility of risk management information associated with naval safety management. The initiative will consolidate safety systems, make it easier to report mishaps, and provide authoritative data to help improve safety conditions. RMI will improve readiness by providing personnel with an enterprise view of information necessary to focus on total loss prevention and control. RMI will turn data into actionable information, enabling all personnel to better understand the hazards and risks associated with their operations and processes. It will help enable informed risk decisions as a means of preventing losses through more efficient and effective operations. RMI will also seamlessly link multiple authoritative sources of data allowing information to be shared across the DON. RMI supports missions of the Naval Safety Center (NAVSAFECEN) and Commandant

Marine Corps Safety Division (CMC SD) which are dedicated to preventing mishaps to save lives and preserving resources.

The DON's RMI initiative reflects the focus to create a safer environment for both Navy and Marine Corps personnel by capturing and analyzing safety incident reporting data. RMI will synthesize incident reporting data into useful products for improving risk and safety conditions by consolidating existing legacy and core safety programs and risk management systems, applications, and data. RMI's streamlined incident reporting will provide a baseline of C and D1 mishaps, hazard reports (HAZREPS) and near misses, and will provide the basis for analysis and trending for all classes and types of incidents to improve safety and risk management. RMI will provide increased safety reporting efficiency, reducing the amount of time spent entering or reentering safety data into the system by DON users.

**Status:** TM&RR  
**Resource Sponsor:** SRB  
**Source:** PMW 240

## Total Force Manpower Management System (TFMMS): Project

TFMMS provides the manpower enterprise the tools to produce the Navy's authoritative manpower products, (Activity Manpower Documents (AMD)), total force positions, manpower resource controls, organizational structure). TFMMS provides the Manpower Change Request (MCR) process to update authoritative manpower products; and send the manpower demand signal output to the Navy and the Manpower, Personnel, Training and Education (MPTE) processes to assure personnel readiness.

**Status:** Functional  
**Resource Sponsor:** N1  
**Source:** PMW 240



# Overview

PMS 444 was established to deliver an enterprise solution that is designed to integrate the Shore Maritime Maintenance business through the interchange of information from various business process areas and related databases enabling organizations.

## Programs

NMMES-TR



# PMS 444

## Navy Maritime Maintenance Enterprise Solution –Technical Refresh (NMMES-TR)

### Navy Maritime Maintenance Enterprise Solution – Technical Refresh (NMMES-TR): Pre-ACAT (IAM Planned)

The purpose of the NMMES-TR initiative is to deliver an enterprise solution that is designed to integrate the Shore Maritime Maintenance business through the interchange of information from various business process areas and related databases enabling organizations to retrieve and disseminate mission critical data throughout the Shore Maritime Maintenance community across Shipyards, RMCs, SRF, TRFs, IMFs, NSSF, and commercial industrial sites worldwide to support the full spectrum of maintenance, repair, and overhaul of Navy ships, aircraft carriers, and submarines.

Timely preventive maintenance, modernization, and repairs are crucial to the successful implementation of the Navy's Optimized Fleet Response Plan (O-FRP). The O-FRP, which commences in Fiscal Year 2015, will require all maintenance, training, evaluations, and deployments to be efficiently scheduled so as to drive down costs and increase overall fleet readiness. The Department of Navy (DON) must remain ready to meet current challenges; sustain current fleet capabilities through effective maintenance; and maintain aircraft carriers, ships, and submarines to the end of their expected service lives to ensure readiness for its assigned missions.

The DON is dependent on the present information technology solution consisting of hundreds of systems and applications for Shore Maritime Maintenance for continued maintenance of aircraft carriers, ships and submarines. The current toolset, crafted to address the business requirements at each maintenance activity supporting fleet maintenance cycles, consists of myriad loosely interfaced operating systems, databases, and hardware that has resulted in a collection of applications with unique configurations developed in many different software languages and architectures. Although these systems and applications have similarities in technical and business processes, they generally do not interoperate with one another or support integrated awareness or an overall logistics and readiness posture. Additionally, the systems and applications operate on separate information technology (IT) infrastructures in multiple data center locations, and this unnecessary redundancy drives up total ownership costs without an increase in mission effectiveness.

Status: MSA  
Resource Sponsor: N97  
Source: PEO EIS





## Overview

As the Navy's designated execution agent for data center consolidation, the DCAO office oversees the transition and sustainment of applications and systems into secure and cost-effective hosting environments.

### Funded Work Efforts

DCC



# SPAWAR DCAO

Data Center & Application  
Optimization (DCAO)

### Data Center Consolidation (DCC): Undesignated

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This program is required to manage all current and future resources for CONUS data center consolidation and application hosting services to employ enterprise standards and reduce TOC. Data Center Consolidation is directed by OMB, DoD CIO, DON CIO and DDCCIO (Navy). DCC R3B (Oct 2013) directed Navy DCC consolidation efforts to be complete by 2019. NEIGB and Provider EXCOMM (May 2014) approved Navy DCC end state application hosting architecture and set current baseline for consolidation sites (118) and servers (10,822). Navy DCC consolidation target performance and end date are reported in Navy's annual Data Center Consolidation Plan to DoD.

**Resource Sponsor:** N2/N6

**SSP:** 27K0

**Source:** PEO EIS

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# **SPAWAR**



## **SPAWAR**

**The following programs, projects and funded work efforts  
are being administered by SPAWAR.**





## Overview

As the SPAWAR designated focal point to the fleet, the Fleet Readiness Directorate (FRD) installs, supports, and modernizes the Navy's C4I hardware and systems. Based in San Diego, with team members located around the world close to the waterfront, the FRD exists to support the fleet's immediate and future C4I readiness issues.

### Programs/Projects

CMS  
 CSEL  
 CDLS  
 DAGR  
 EMUT  
 EMSS Iridium  
 EPLRS-DR  
 GCCS-J  
 HF Legacy  
 HFSAR  
 INMARSAT  
 JCSE  
 Link 11 Legacy Data Terminal Set  
 METOC SASC  
 NAVSSI AN/SSN-6(V)  
 NESP  
 AN/WRN-6(V)  
 Sub 2Z Cog  
 SHF SATCOM  
 TVS  
 TV-DTS  
 TFDS  
 UHF Legacy and Mini-DAMA  
 WRBS



## SPAWAR FRD

### Fleet Readiness Directorate (FRD)

#### Clarinet Merlin Sustainment (CMS): Project

CMS is an operational ship-to-shore communication system that was developed to provide a lost or "in extremis" submarine unable to communicate through normal means a method to communicate a message to the Broadcast Control Authority (BCA) that the boat is unable to complete its mission. CMS consists of the Submarine Emergency Communication Transmitter (SECT) AN/BST-1 buoy and Clarinet Merlin Receiving System (CMRS). The CMRS provides for the monitoring of specific HF communications and detection of message transmissions from SECT buoys. The SECT buoy communicates messages to fleet commanders from an SSBN on patrol that has been placed in extremis and unable to complete its mission.

**Status:** Functional  
**Resource Sponsor:** N2/N6  
**SSP:** 02K0  
**Source:** SPAWAR FRD 100

#### Combat Survivor Evader Locator (CSEL): ACAT III

CSEL is a joint services communication system which provides the survivor/evader with: precision Global Positioning System (GPS) based on geo-position and navigation data, two-way over-the-horizon (OTH) secure data communication to a Joint Search and Rescue Center (JSRC), OTH beacon operation, and Line-of-Sight (LOS) voice communication and swept tone beacon capabilities. CSEL replaces all legacy Combat

Search and Rescue (CSAR) handheld radios (HHRs) for Special Operations Forces (SOF).

**Status:** O&S  
**Resource Sponsor:** N2/N6  
**SSP:** 1800  
**Developers:** SSC Pacific, San Diego, CA  
**Source:** SPAWAR FRD 100

#### Communications Data Link System (CDLS): ACAT III

Navy Program of Record (POR) CDLS is installed on carriers and amphibious ships. CDLS provides a single 360-degree Ku and X frequency band point to point data link for ranges up to 250nm with CDL capable aircraft (MH-60R, P-3, P-8, MQ-4 Triton, MQ-8 FireScout, and MQ-25). Provides digital sensor data interface to the Aircraft Carrier Tactical Support System (CV-TSC), and Global Command and Control System – Maritime (GCCS-M).

**Status:** O&S  
**Resource Sponsor:** N2/N6  
**SSP:** 08Q0  
**Developers:** SSC Pacific, San Diego, CA  
**Source:** SPAWAR FRD 100

#### Defense Advanced GPS Receiver (DAGR): AAP

The DAGR is a lightweight, handheld, dual frequency, Selective Anti-Spoofing Module (SAASM)-based, Precise Positioning Service (PPS) receiver. It is the replacement to a discontinued handheld receiver, the Precision Lightweight GPS Receiver (PLGR).

**Status:** O&S  
**Resource Sponsor:** N2/N6

**SSP:** 60R1  
**Developers:** Rockwell Collins  
**Source:** SPAWAR FRD 100

## Enhanced Man-pack UHF Terminal (EMUT): Project

EMUT Conical Logarithmic Spiral Mode (CLSM) antenna provides Ultra-High Frequency (UHF) Satellite Communications (SATCOM) Demand Assigned Multiple Access (DAMA) and Non DAMA capability supporting voice and data communications for the embarked MAGTF onboard LHA, LHD, LPD, and LSD class of ships. EMUT CLSM antenna installations are included in the budget profile as a project under the EPLRS-DR program.

**Status:** Functional  
**Resource Sponsor:** N2/N6  
**SSP:** 18M0  
**Developers:** SSC Pacific, San Diego, CA  
**Source:** SPAWAR FRD 100

## Enhanced Mobile Satellite Service (EMSS) Iridium: Project

Iridium EMSS, formerly known as Mobile Satellite Service/Personal Communication System (IRIDIUM MSS/PCS), is a Defense Information Systems Agency (DISA) project initiated at the request of DoD Memo from OASD C3I of 13 Mar 01. DISA is responsible for the procurement, delivery, contracting, and achieving performance objectives of all Iridium hardware/software. DISA bills enterprise groups based on fixed allocation to operate DoD Gateway.

**Status:** Functional  
**Resource Sponsor:** N2/N6  
**SSP:** 10B0  
**Developers:** Defense Information Systems Agency (DISA)  
**Source:** SPAWAR FRD 100

## Enhanced Position Location Reporting System – Data Radios (EPLRS-DR): AAP

EPLRS-DR replacement provides up to 5 Mb digital IP data path between command elements aboard ship and Marine networks ashore. Additionally, EPLRS-DR provides the position location information of each radio, which is used to track and identify unit movement within the operational area for SA.

The EPLRS-DR upgrade [AN/SRC-60 A (V)1 and AN/SRC-60 A (V)2] will modify the EPLRS-DR rack to accommodate two PRC-117G radios in an operational environment to deliver interoperability between the EPLRS-DR and PRC-117G radios connected

via the MAGTF router in order to meet USMC capabilities. This capability will allow ship-to-shore data link capabilities and high VHF capability when conducting AFRICOM missions, as well as allow for additional UHF requirements to be supportable.

**Status:** O&S  
**Resource Sponsor:** N2/N6  
**SSP:** 18M0  
**Developers:** SSC Pacific, San Diego, CA  
**Source:** SPAWAR FRD 100

## Global Command and Control Systems – Joint (GCCS-J): Project

GCCS-J is DoD's Joint Command and Control (C2) Program of Record. It is managed by Defense Information Systems Agency (DISA) and supports the Joint Staff, CCOMS and subordinate commands by providing a common C4I system, status of forces, and support for national security decision making, force preparation and operational planning execution. GCCS-J has three baselines: SORTS, JOPES, and GLOBAL. Navy only fields GCCS-J GLOBAL, which delivers Integrated Imagery and Intelligence (I3) and Common Operational Picture (COP) capabilities.

GCCS-J service offers vital connectivity to systems used to plan, execute and manage military operations for both joint and multinational operations. GCCS-J fuses select C2 capabilities into a comprehensive, interoperable system by exchanging imagery, intelligence, status of forces, and planning information. GCCS-J is focused on meeting emerging operational needs through sustainment and synchronization support to operational baselines (Global and COP I3) and subject matter experts to assist with critical operation and the GCCS-J Family of Systems (FoS).

**Status:** Functional  
**Resource Sponsor:** N2/N6  
**SSP:** 50J0  
**Developers:** Defense Information Systems Agency (DISA)  
**Source:** SPAWAR FRD 100

## High Frequency (HF) Legacy: Project

HF Legacy, formerly known as High Frequency and Switching Systems, voice/data communications provide a means to transfer data communications in the 2-30MHz frequency range. HF is the communications path for Data LINK, HFIP, and CSG/ESG voice coordination communications. System provides shipboard

Beyond Line of Site (BLOS)/Line of site (LOS) HF tactical communications for more than 3,202 systems and components to include: HF Legacy radios (URT-23), antennas, couplers, HFRG (URC-131 & URC-109), HF Tilt, and MCCP. Systems have been fielded up to 30+ years and have no planned replacement.

**Status:** Functional  
**Resource Sponsor:** N2/N6  
**SSP:** 18F0  
**Developers:** SSC Pacific, San Diego, CA  
**Source:** SPAWAR FRD 100

## High Frequency Shipboard Automatic Link Establishment Radio Program (HFSAR): AAP

HFSAR is a standalone system which provides terrestrial, ship-to-ship and ship-to-tactical shore connectivity. It is a critical beyond-line-of-sight (BLOS) and over-the-horizon (OTH) warfighting requirement. The Landing Force relies heavily on the HF-ALE due to limited availability of Tactical Satellite assets, channels, and bandwidth.

**Status:** O&S  
**Resource Sponsor:** N2/N6  
**SSP:** 18F0  
**Developers:** SSC Pacific, San Diego, CA  
**Source:** SPAWAR FRD 100

## International Maritime Satellite Program (INMARSAT): ACAT III

INMARSAT is a commercial, off-the-shelf satellite system that provides up to 128 kbps diverse backup capability via leased channels. Since CY11, INMARSAT B's have functioned solely as radio telephones. All INMARSAT B services are obsolete as of Dec 2016. INMARSAT "B" is an orphaned system, in Inactive Equipment Maintenance (IEM) status, that was not removed from ships when leases were terminated. SSEE INC F re-uses some components.

**Status:** O&S  
**Resource Sponsor:** N2/N6  
**SSP:** 10B0  
**Developers:** SSC Pacific, San Diego, CA  
**Source:** SPAWAR FRD 100

## Joint Communications Support Element (JCSE) Modernization: Project

JCSE is a FRD pass-through with program management oversight at JCSE Command at MacDill AFB.

**Status:** Functional  
**Resource Sponsor:** N2/N6



**SSP:** 28D0

**Developers:** SSC Pacific, San Diego, CA

**Source:** SPAWAR FRD 100

## Link 11 Legacy Data Terminal Set: Project

Link 11 provides high speed computer-to-computer exchange of digital tactical information using radio communications in the high frequency (HF) and ultra-high frequency (UHF) bands among Tactical Data System (TDS) equipped ships, aircraft and shore sites. The Legacy Data Terminal Set is one of many systems that enable this capability.

**Status:** Functional

**Resource Sponsor:** N2/N6

**SSP:** 60R1

**Source:** SPAWAR FRD 100

## METOC Surface-based Atmospheric Sensing Capabilities (METOC SASC): Project

The SASC mission is to provide aviation safety meteorological systems & equipment for Naval Air Stations and remote operating locations worldwide, and supporting the NAVMETOCCOM Resource Protection mission. The Automated Surface Observing Systems (ASOS) provides meteorological sensing supporting National Air Space Air Traffic Control (ATC) requirements. ASOS is a National Weather Service (NWS) system used by the FAA and Navy under a Joint Agency Memorandum of Agreement. The Supplemental Weather Radar (SWR) (AN/FPS-131A) provides weather radar coverage in areas not covered by the NWS NEXRAD Doppler Weather Radar System.

**Status:** Functional

**Resource Sponsor:** N2/N6

**SSP:** 84P0

**Developers:** ASOS: National Weather Service (NWS)

SWR: Enterprise Electronic Corporation (EEC)

**Source:** SPAWAR FRD 100

## Navigation Sensor System Interface (NAVSSI AN/SSN-6(V)): ACAT IVT

The NAVSSI program's main function is the collection, processing, integration and distribution of navigation data to weapon systems, combat support systems, C4ISR systems, and other information system users. These systems depend on NAVSSI to provide critical Positioning, Navigation and Timing (PNT) data.

**Status:** O&S

**Resource Sponsor:** N96 and N98

**Developers:** SSC Pacific, San Diego, CA

**Source:** SPAWAR FRD 100

## Navy Extremely High Frequency SATCOM Program (NESP): ACAT IC

Extremely High Frequency (EHF) AN/USC-38(V)X, formerly known as EHF SATCOM (EHF AN-USC-38), provides netted, broadcast, point-to-point (PTP) communications required to enable Anti-Access/Area Denial (A2AD) communication

Provides critical mission bandwidth for Missile Defense Agency (MDA) Ballistic Missile Defense (BMD), Submarine Special Operations Forces (SOF), Tomahawk Strike, Nuclear Command and Control (NC2) and national strategic missions

**Status:** O&S

**Resource Sponsor:** N2/N6

**SSP:** 14B0

**Developers:** SSC Pacific, San Diego, CA

**Source:** SPAWAR FRD 100

## Satellite Signals Navigation Set (AN/WRN-6(V)): AAP

AN/WRN-6 is the Primary Source of Global Positioning System (GPS) Positioning, Navigation and Timing (PNT) Information for Shipboard and Submarine Combat and C4ISR Systems. This system is no longer in production and is being replaced by NAVSSI.

**Status:** O&S

**Resource Sponsor:** N2/N6

**SSP:** 60R1

**Developers:** SSC Pacific, San Diego, CA

**Source:** SPAWAR FRD 100

## Submarine 2Z Cog Equipment Restoration (Sub 2Z Cog): Project

The 2Z Cog project provides maintenance and repair of various submarine communication system components. The principal equipment is normally at the end item system level. The submarine fleet will be provided with free supported equipment. Equipment is received from decommissioned submarines, base closures, canceled programs and equipment carcass turn-ins (DLR).

**Status:** Functional

**Resource Sponsor:** N2/N6

**SSP:** 60R1

**Source:** SPAWAR FRD 100

## Super High Frequency (SHF) SATCOM: ACAT II

SHF AN/WSC-6(V)5/7 provides Military X-band capability. The (V)9 is also commercial C-band and Military Ka-Band capable used for wideband services including NIPRNET, SIPRNET, POTS, VTC, training, etc.

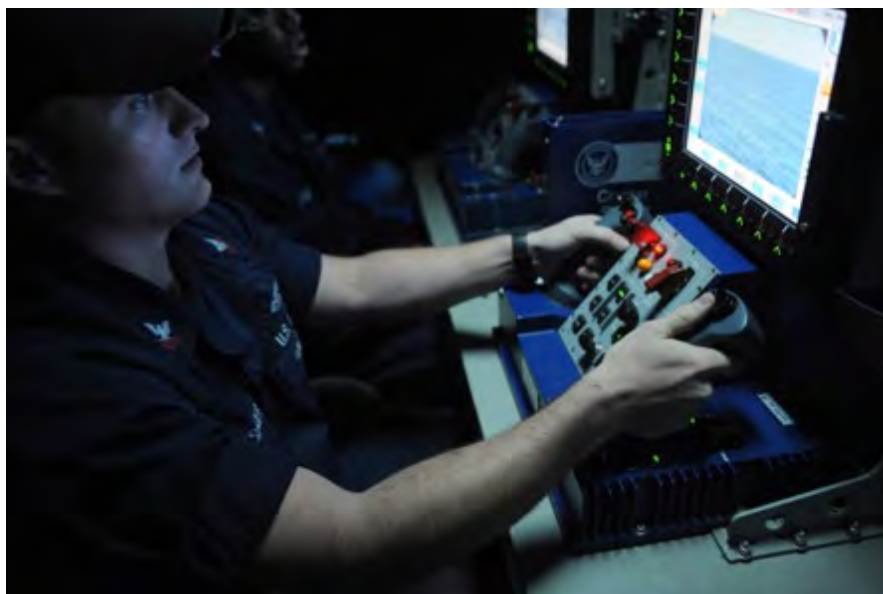
**Status:** O&S

**Resource Sponsor:** N2/N6

**SSP:** 10B0

**Developers:** SSC Pacific, San Diego, CA

**Source:** SPAWAR FRD 100



## Tactical Variant Switch (TVS): Project

TVS has both Red and Black configurations and provides automated analog and digital switching and control of clear and encrypted signals between Tactical Voice Terminals (TVT), encryption devices, multiplexers, modems, and radio transmitters and receivers. It provides switching for narrowband and wideband signaling. TVS is a “stand-alone” switching infrastructure that does not depend on any outside interface to operate.

**Status:** Functional

**Resource Sponsor:** N2/N6

**SSP:** 23H0

**Developers:** SSC Pacific, San Diego, CA

**Source:** SPAWAR FRD 100

## Television Direct to Sailors (TV-DTS): ACAT IVM

TV-DTS augments existing military communication systems providing enhanced situational awareness and improved Quality of Life to U.S. Navy sailors and marines assigned to ships through live television and radio 24/7.

**Status:** O&S

**Resource Sponsor:** N2/N6

**SSP:** 10B0

**Developers:** SSC Pacific, San Diego, CA

**Source:** SPAWAR FRD 100

## Time and Frequency Distribution System (TFDS): AAP

AN/BSQ-9(V), TFDS distributes Precision Time and Time Interval (PTTI) reference signals to the communications, navigation, electronic warfare, combat systems, and ship control equipment onboard all classes of submarines.

**Status:** O&S

**Resource Sponsor:** N2/N6

**SSP:** 60R1

**Developers:** Brandywine

**Source:** SPAWAR FRD 100

## Ultra High Frequency (UHF) Legacy and Miniaturized Demand Assigned Multiple Access (Mini-DAMA): AAP

The UHF Legacy Communications Systems Portfolio, formerly known as UHF SATCOM 5/25 kHz, includes over 4,200 systems/assemblies. UHF systems provide connectivity for command and control, targeting and intelligence networks over Narrowband UHF SATCOM. UHF Program supports the exchange of secure Battle Group coordination data, organizational messaging, tactical data and voice over UHF SATCOM via Demand Assigned Multiple Access (DAMA) over 5/25kHz channels. UHF legacy Communication LOS Systems also support A2AD by providing a redundant or overlapping form of communication in

case U.S. satellites are targeted by threat nations. The systems support Maritime Operational Center System of System Engineering and are installed on Aegis Ashore Sites.

**Status:** O&S

**Resource Sponsor:** N2/N6

**SSP:** 08E1

**Developers:** SSC Pacific, San Diego, CA

**Source:** SPAWAR FRD 100

## Wireless Reach Back System (WRBS): AAP

The WRBS, formerly known as EMIO, capability provides a secure, wireless transmission system capable of transmitting EMIO specific data from Visit, Board, Search, and Seizure (VBSS) teams aboard the target vessel to the On-Scene Command (OSC) ship, obviating the use of the Rigid Hull Inflatable Boat (RHIB) as a data transport medium during EMIO.

**Status:** O&S

**Resource Sponsor:** N2/N6

**SSP:** 60R1

**Source:** SPAWAR FRD 100







# Overview

SPAWAR 4.0 provides governance for logistics and fleet support efforts in support of PEOs, program managers, business units, and other customers. 4.0 is the single process owner for all logistics and fleet support policies, processes, tools, and output metrics and is responsible for the professional development and work assignment of individuals within the competency to ensure that sound logistics and fleet support principles are applied and practiced throughout the program life cycle.

## Funded Work Efforts

- Initial Spares
- Readiness and Logistics Support



# SPAWAR 4.0

## Logistics

### Initial Spares: Undesignated

The initial spares requirement funds all on board allowances, installation and check out kits, and depot stock to support new C4ISR system procurements during the interim support period. The initial spares includes interim spares and repair parts for recently introduced equipment, without adequate demand history, using prescribed weapons utilization rates as well original manufacturer failure rate analysis. All spares requirements are developed using validated and accredited sparing models.

**Resource Sponsor:** N2/N6  
**SSP:** 79B0  
**Source:** SPAWAR 4.0

### Readiness and Logistics Support: Undesignated

Centralized integrated logistics support (policies, processes, tools and metrics) to PEOs (C4I/EIS/SPACE) product lines. Enables acquisition and sustainment logistics; centralized management of technical manuals; supply chain management; fleet training oversight; integration of MILCON/Command Center modernization activities; installation management afloat and ashore; CASREP data management; and Distance and In-service support.

**Resource Sponsor:** N2/N6  
**SSP:** 60R0  
**Source:** SPAWAR 4.0



# Overview

SPAWAR 5.0 serves as the Navy’s Chief Engineer and technical authority for command, control, communications, computers, intelligence, surveillance, and reconnaissance systems. The competency provides the engineering technical leadership for innovative and interoperable solutions for our warfighters.

## Projects/Funded Work Efforts

- AUSCANNZUKUS C4
- CHENG
- CWIX
- FORCEnet
- SEW and ISR Architecture



# SPAWAR 5.0

## Chief Engineer

### AUSCANNZUKUS C4: Project

The AUSCANNZUKUS C4 program provides for the exchange of operational and technical information to improve coalition interoperability relating to Maritime Information Warfare (MIW) between shore, ship, air, and submarine platforms. The program encompasses Command, Control, Communications, and Computers, Intelligence, Surveillance and Reconnaissance (C4ISR); Electronic Warfare (EW); Position, Navigation and Timing (PNT) and Cyber Warfare, as well as the enhancement of the United States Battlefield Information Collection and Exploitation System – eXtended (US BICES-X) technologies and their interoperability over maritime tactical networks. In addition to the North Atlantic Treaty Organization (NATO) and Partnership for Peace (PfP) countries, information is exchanged with Australia, Canada, New Zealand, United Kingdom, and the United States (AUSCANNZUKUS) collectively under the auspices of the Multilateral Master Military Information Exchange Memorandum of Understanding.

Status: N/A  
Resource Sponsor: N2/N6  
SSP: 28A0  
Source: SPAWAR 5.0

### Chief Engineer (CHENG): Undesignated

Supports systems engineering of integrated C4ISR, Space, and Information Technology (IT) products to the fleet, and provides

multi-year fleet modernization planning and testing to deploying Carrier Strike Group, Expeditionary Strike Group and shore facilities. Supports creation of policies, standards and technical guidance to coordinate and consolidate Shipboard Network updates across Navy programs. Ensure interoperability and Information Assurance (IA) among all products in the naval, joint, and coalition environments. Modify and refine Naval and Department of Defense (DoD) interoperability and IA standards through analysis and participation in DoD and industry standards forums.

The Chief Engineer Navy Cybersecurity Department (NCD) supports Chief of Naval Operations (CNO) directed NCD and CYBERSAFE tasks for SPAWAR SYSCOM. Responsibilities include: 1) supporting the increased requirements due to the implementation of Risk Management Framework (RMF); 2) performing Cybersecurity assessments and responses; and 3) providing Cybersecurity element certification, Cybersecurity platform certification, and strike group Cybersecurity certification which will reduce risk and result in improved warfighter operational readiness.

Joint Regional Security Stack (JRSS) supports PEOs/PMWs by providing engineering services required to migrate excepted networks (designated by FCC as networks that cannot utilize NMCI transport or IA infrastructure) from their current boundary protection capabilities to those provided by JRSS.

Resource Sponsor: N2/N6  
SSP: 60Q0  
Source: SPAWAR 5.0



## Coalition Warrior Interoperability eXploration, eXperimentation, eXamination, eXercise (CWIX): Undesignated

CWIX supports USN involvement in Joint and Coalition interoperability trials, Joint End-to-End prototyping trials, and joint/coalition interoperability demonstrations, assessments, metrics, and studies. The USN provides funding to the general CWIX operating budget and participates by operating a USN Demonstration site.

**Resource Sponsor:** N2/N6  
**SSP:** 53B0  
**Source:** SPAWAR 5.0

## FORCEnet: Project

FORCEnet conducts Portfolio Health Assessments (PHA) that evaluate system-of-systems processes to identify warfighting gaps and compare solutions. FORCEnet supports PHAs of Navy mission areas and identifies gaps in Information Warfare (IW) capabilities by integrating warriors, sensors, command and control, platforms, and weapons into a networked, distributed combat force. In addition to supporting

vignettes, technical baselines, architecture products, and decision making processes, the underlying premise of FORCEnet's power is its exponential network effect. Additionally, Chief of Naval Operations (CNO) IW efforts focus prioritization and organizational responsibility for information warfare, cyber, intelligence, and sensors resulting in increased scope of systems, platforms, and mission areas.

**Status:** N/A  
**Resource Sponsor:** N2/N6  
**SSP:** 03A0  
**Source:** SPAWAR 5.0

## Space and Electronic Warfare (SEW) and ISR Architecture: Undesignated

SEW provides three main functions in support of the Navy objectives in advancing Information Warfare (IW) capabilities:

- (1) Develop the architectures, specifications and standards to support a single integrated Navy plan for cybersecurity;
- (2) Define an integrated Enterprise Architecture to support design, development and delivery of integrated Navy Command, Control, Communications, Computers, Intelligence, Surveillance,

and Reconnaissance (C4ISR), Business Information Technology (IT), and Space System capabilities; and

- (3) Drive rigorous Systems Engineering discipline to support rapid development and delivery of secure and interoperable C4ISR, Business IT, and Space Systems capabilities that meet fleet requirements.

Develop integrated ISR architectures to help instill systems engineering discipline and standardization across the Navy ISR Enterprise and provide a means by which to assess ISR PoR progress in conforming to a single Navy architecture.

**Resource Sponsor:** N2/N6  
**SSP:** 53B0  
**Source:** SPAWAR 5.0





# Overview

SPAWAR 8.0 is service-based and provides support to operate Team SPAWAR through sub-competencies to ensure overall success of day-to-day business operations across all SPAWAR business units: Total Force Management, Information Technology Management, Command Operations/Support, Corporate Strategy, Corporate Communications and Public Affairs, Inspector General, Special Program Overview & Compliance, and Small Business.

## Funded Work Efforts

SPAWAR Command and Administration Support  
SPAWAR Salaries



# SPAWAR 8.0

## Corporate Operations

### SPAWAR Command and Administration Support: Undesignated

Command and Administration funds the SPAWAR HQ core business and management operations and provides a wide range of capabilities and resources from which to conduct business. Key core elements include: Financial and Comptroller, Contracts, Counsel (Legal), and Corporate Operations Competencies (Public Affairs, Congressional Liaison, Total Force Manpower, Corporate Information Technology, Human Resources, and Command Staff & Support). This does not include HQ or PEO MILPERS or CIVPERS salaries.

**Resource Sponsor:** N2/N6  
**SSP:** 60K0  
**Source:** OPNAV N2/N6

### SPAWAR Salaries (HQ/PEOs): Undesignated

SPAWAR Salaries supports the government civilian and MILPERS (MPN and RPN) who execute program responsibilities within SPAWAR and hosted PEOs. Positions include Contracting Officers, Comptroller, Counsel, Engineering, Logistics, Program Managers, APMs and other positions. Does not include Navy Working Capital Funded CIVPERS and MILPERS. Programs will absorb 20% HQ reduction and are undergoing phased downsizing throughout FY19 to meet requirements.

**Resource Sponsor:** N2/N6  
**SSP:** 60L0  
**Source:** OPNAV N2/N6



# ***SPAWAR***



## ***Systems Center PACIFIC***

### **SPAWAR Systems Center Pacific (SSC Pacific)**

The following funded work efforts are  
being administered by SSC Pacific.





## Overview

Space and Naval Warfare Systems Center Pacific (SSC Pacific) provides the U.S. Navy and military with essential capabilities in the areas of command and control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR), cyber, and space.

### Funded Work Efforts

SSC Pacific, Code 59



# SPAWAR Systems Center Pacific

Code 59

**SPAWAR Systems Center Pacific, Code 59 – Interoperability/Information Systems: Undesignated**

SPAWAR Systems Center Pacific, Code 59 provides: U.S. Navy, only Link 16 Network Design Facility that designs, builds and distributes Link 16 Networks to the fleet and OIF/OEF; Navy representation for Joint Staffs Joint Network Design Team; Navy Standards Manager for Tactical Data Links (Link 16/11/4), Variable Message Format (VMF-primary Close Air Support data link) and OTH-T (GCCS-M); Interoperability Certification testing for Navy systems; and fleet end-to-end validation/grooming of Tactical Data Links prior to deployment.

**Resource Sponsor:** N2/N6

**SSP:** 59A0

**Source:** SSC Pacific



# ***SPAWAR***



## **Programs Supported by SPAWAR**

**The following programs and funded work efforts  
are being supported by SPAWAR.**





# Fleet Cyber Command (FCC)/ Tenth Fleet (C10F)

## Overview

Fleet Cyber Command serves as a central operational authority for networks, cryptologic/signals intelligence, information operations, cyber, electronic warfare, and space capabilities in support of forces afloat and ashore.

Tenth Fleet's mission is to serve as the numbered fleet for Fleet Cyber Command and exercise operational control of assigned Naval forces; to coordinate with other naval, coalition and Joint Task Forces to execute the full spectrum of cyber, electronic warfare, information operations and signal intelligence capabilities and missions across the cyber, electromagnetic and space domains.

## Funded Work Efforts

FCC/C10F  
Corporate Manpower  
Navy Cyber Warfare  
Development Group

## Fleet Cyber Command (FCC)/ Tenth Fleet (C10F): Undesignated

FCC's vision is to conduct operations in and through cyberspace, the electromagnetic spectrum, and space to ensure Navy and Joint/Coalition freedom of action and decision superiority while denying the same to our adversaries. We will win in these domains through our collective commitment to excellence and by strengthening our alliances with entities across the U.S. Government, Department of Defense, academia, industry, and our foreign partners. FCC is Navy Component Commander to USSTRATCOM/USCYBERCOM, and Navy's Service Cryptologic Component commander under NSA/CSS. Assigned ADDU as Commander, C10F.

The mission of Fleet Cyber Command is to serve as central operational authority for networks, cryptologic/signals intelligence, information operations, cyber, electronic warfare, and space capabilities in support of forces afloat and ashore; to direct Navy cyberspace operations globally to deter and defeat aggression and to ensure freedom of action to achieve military objectives in and through cyberspace; to organize and direct Navy cryptologic operations worldwide and support information operations and space planning and operations, as directed; to execute cyber missions as directed; to direct, operate, maintain, secure, and defend the Navy's portion of the Department of Defense Information Networks (DoDIN); to deliver integrated cyber, information operations, cryptologic, and space capabilities; to deliver a global Navy cyber common operational picture; to develop, coordinate, assess, and prioritize Navy cyber, cryptologic/signals intelligence, space, information operations, and electronic warfare requirements; to assess Navy cyber readiness; and to exercise administrative and operational control of assigned forces. Provides FCC/C10F HQ support contracts, travel, vehicles, training, supplies, NGEN service support, knowledge/information management, and facilities (i.e. leases) to include HQ facilities support equipment (VTC, copiers, data fusion capability, etc.). Funds C10F Maritime Operations Center and the Cyber Security

Inspection & Certification Program (CSICP) Program personnel and travel.

**Resource Sponsor:** N2/N6  
**SSP:** 61H0  
**Source:** OPNAV N2/N6

## Corporate Manpower: Undesignated

The Corporate Manpower Program maintains primarily Military Intelligence Program (MIP) funding, using military manpower (both active and reserve), to support multiple, worldwide, cryptologic and intelligence related organizations in a wide range of functions at Director of Naval Intelligence (DNI), Defense Intelligence Agency (DIA), the National Security Agency (NSA) and other groups. Fields of support include administration, logistics, personnel administration, and service support as well as base and procurement operations.

**Resource Sponsor:** N2/N6  
**SSP:** 11C0  
**Source:** OPNAV N2/N6

## Navy Cyber Warfare Development Group: Undesignated

The Navy Cyber Warfare Development Group funding supports full-spectrum Cyber Warfare Development to leverage unique accesses provided by the Navy. Research and development is intended to provide capabilities to existing programs that can be operated remotely in coordination with national assets or from forward deployed forces in a communications denied environment. Technologies to address (at an unclassified level): Vulnerability analysis against high-value maritime C4ISR threats, access to networks via forward Navy presence, non-kinetic approaches to anti-ship ballistic missile defense, and access to advanced CNO technologies.

**Resource Sponsor:** N2/N6  
**SSP:** 55B0  
**Source:** OPNAV N2/N6





# Joint Tactical Networking Center (JTNC)

## Overview

The Joint Tactical Networking Center provides coordinated wireless communications expert technical support to USD(AT&L) and DoD CIO-related policy initiatives and governance processes aimed at ensuring interoperable, secure, and affordable waveform and wireless communications domains.

### Funded Work Efforts

JTNC

## Joint Tactical Networking Center (JTNC): Undesignated

The JTNC supports the Department of Defense's (DoD) goal of ensuring interoperable, secure, and affordable waveforms and wireless communication products by recommending standards, conducting compliance and certification analyses in accordance with DoD policies, and managing and maintaining the DoD Waveform Information Repository (IR). The JTNC also supports the Under Secretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L)), DoD Chief Information Officer (DoD CIO), and Service initiatives by providing technical expertise

to facilitate standardization of key waveform interfaces. The intent is to minimize duplication of waveform developments, increase wireless communications software reuse, promote effective information sharing, and integrate command and control (C2) capabilities.

**Resource Sponsor:** N2/N6  
**SSP:** 18P0  
**Source:** JTNC



# Naval Network Warfare Command (NNWC)

## Overview

NNWC executes tactical-level command and control to direct, operate, maintain, and secure Navy communications and network systems for DoD Information Networks. They assure delivery of Navy communications and network systems DoDIN-N capability to Naval Forces globally, and provide interoperable communication services that are operationally responsive, agile, and tailored to meet warfighting needs.

### Funded Work Efforts

NAVSOC  
 Space Manpower

## Naval Satellite Operations Center (NAVSOC): Undesignated

The NAVSOC provides operational support of UFO/FLTSAT/Polar Satellites ensuring worldwide UHF/EHF/GBS communications for fleet broadcasts, intelligence broadcasts, data distribution, missile warning data, survivable strategic and tactical communications, imagery, theater data, and video. The NAVSOC is responsible for the development, maintenance, and sustainment of TT&C operations of the MUOS satellite. IAW STRATCOM OPORD 09-01, supports 3 Regional and the Global SATCOM Support Centers (RSSCs/GSSC) (25 Full Time Equivalent) providing a focal point for accessing, planning, and troubleshooting SATCOM resources. The NAVSOC provides direct support to COCOMS and fleet users.

**Resource Sponsor:** N2/N6  
**SSP:** 82C0  
**Source:** OPNAV N2/N6

## Space Manpower: Undesignated

Space Manpower refers to the military billets providing Navy engineering and acquisition expertise in support of naval space acquisitions by PEO SS, PEO C4I, NRO and operational support for the Naval Satellite Operations Center (NAVSOC) and its detachments.

**Resource Sponsor:** N2/N6  
**SSP:** 82A1  
**Source:** OPNAV N2/N6



# Naval Sea Systems Command (NAVSEA)

## Overview

NAVSEA is comprised of command staff, headquarters directorates, affiliated PEOs and numerous field activities. Together, they engineer, build, buy, and maintain ships, submarines, and combat systems that meet the fleet's current and future operational requirements.

### Funded Work Efforts

EMI Control/SEMCIP

### Electromagnetic Interference (EMI) Control/Shipboard Electromagnetic Compatibility Improvement Program (SEMCIP): Undesignated

SEMCIP provides a core naval capability to achieve Electromagnetic Compatibility (EMC) by effective prevention, identification, characterization, resolution, and control of EMI that impacts U.S. Naval surface ships, submarines, ashore commands, and strike groups in joint and littoral

operations. It provides the U.S. Navy with an automated Spectrum Management (SM) Tool, the Afloat Electromagnetic Spectrum Operations Program (AESOP) for Strike Group Radar and Communications Spectrum Planning. SEMCIP/EMI collaborates with Learning Centers of Excellence to update Occupational Standards (OCCSTDS) and institutionalizes EMI Control/SM training requirements into the career path of sailors.

**Resource Sponsor:** N2/N6

**SSP:** 48A0

**Source:** OPNAV N2/N6



# PEO for Tactical Aircraft Programs (T)

## Overview

PEO for Tactical Aircraft Programs exists to facilitate the work of program teams and provide assessments on program cost, schedule, and performance to the appropriate milestone decision authority and resource sponsor.

### Programs

MIDS

### PMA/PMW 101 – Multifunctional Information Distribution System (MIDS): ACAT IC

MIDS is a Navy ACAT IC program aligned to both SPAWAR and the Program Executive Office for Tactical Aircraft Programs (PEO(T)). The program's mission is to develop, field, and support interoperable, affordable and secure Link 16, Advanced Tactical Data Link (ATDL), and programmable networking technologies and capabilities for the Joint, Coalition, and International Warfighter. MIDS is the most widely-fielded family of Link 16 radio terminals in the world. MIDS products support airborne, maritime, and fixed-station platforms with a multi-band, multi-mode, networkable, software definable radio system satisfying existing and future

requirements for DoD joint interoperability. The primary products are the MIDS - Low Volume Terminal (MIDS-LVT), MIDS Joint Tactical Radio System (MIDS JTRS), Tactical Targeting Network Technology (TTNT) Waveform, and Link 16 Waveform.

The MIDS-LVT was designed to be smaller and lighter than Joint Tactical Information Distribution System (JTIDS) Class 2 terminals while remaining interoperable with all JTIDS radios. The MIDS-LVT is managed by the MIDS International Program Office (IPO). The IPO is governed by a Steering Committee with a 5-nation Program Memorandum of Understanding (PMOU) signed by France, Germany, Italy, Spain and the United States, and has over 25 years of international cooperation. Over 10,000 MIDS-LVTs are in use by the United States and over 40 of its allies. MIDS-LVT has proven to be a versatile radio, with



variants that provide Link 16 and Tactical Air Navigation (TACAN) capabilities to small fighter aircraft, wide-body aircraft, ships, and ground stations on diverse systems all over the world. Block Upgrade 2 (BU2) to MIDS-LVT, planned for completion in 2017, will add three major features through retrofits to existing terminals. First, BU2 will include a Link 16 Enhanced Throughput (LET) mode that will increase data rates available to platforms from three to ten times the existing waveform capacity. Second, the built-in cryptography is being modernized (Crypto Modernization, or CM) to implement next-generation National Security Agency (NSA) algorithms, keys, and security features, including field-upgradability of crypto logic. Third, BU2 will implement Frequency Remapping (FR) to satisfy a DoD and Department of Transportation agreement to more easily share part of Link 16's radio spectrum with planned civil aviation systems by 2025. The maturity of the MIDS architecture makes it possible to implement these features without requiring changes to host platform interfaces and while maintaining interoperability with other Link 16 radios.

The MIDS JTRS terminal was built as a multi-channel, software-defined variant of MIDS-LVT, and the MIDS JTRS Core terminal with LET, FR, and CM, is now fielded on some U.S. platforms. MIDS JTRS improves upon the architecture of MIDS-LVT by adding capacity for three waveforms in addition to Link 16, although it is solely used today as a Link 16/TACAN terminal. The more modular design of MIDS JTRS has facilitated the rapid incorporation of new technology, such as Four Net Concurrent Multi-Netting (CMN-4) with Concurrent Contention Receive (CCR). CMN-4 consists of two capabilities, CMN and CCR, which dramatically expand the

number of platforms and network-enabled systems that can be reliably included in a Link 16 network. These enhancements allow a single MIDS JTRS terminal to receive up to four messages (compared with just one today) within a single Link 16 time slot, allowing a user to "hear" messages from up to three additional sources at once. CMN-4 allows more messages to be broadcast at the same time, instead of being assigned additional timeslots, or to be rebroadcast less frequently, as the recipient will miss fewer messages. The fielding of this capability will support Naval Integrated Fire Control – Counter Air (NIFC-CA). Seeing the advantage of this capability, the U.S. Air Force announced in 2015 that all of its fighters would also upgrade to CMN-4. Further enhancements to MIDS JTRS are underway to increase the robustness of Link 16.

The flexibility of the MIDS JTRS design has been demonstrated through the application of several capability enhancements, including the addition of a new waveform, Tactical Targeting Network Technology (TTNT), which is planned for fielding in 2020. MIDS JTRS will realize its multi-channel potential with the addition of TTNT, a high-bandwidth, low-latency, Internet Protocol (IP)-capable waveform. The TTNT waveform augments existing Link 16 CMN-4 capability to provide increased capacity to support NIFC-CA and Offensive Anti-Surface Warfare mission capabilities. TTNT's low latency transport service enables time-sensitive applications such as targeting and sensor netting. Its flexibility as an IP waveform allows Global Information Grid (GIG) connectivity, including Secure IP Router Network (SIPRNet), to be extended to tactical aircraft. Some planned TTNT-enabled capabilities include sensor netting, chat, file transfer, multi-sensor signals

systems, and near-real-time Battlefield Information and Battle Damage Assessments (possibly through transfer of imagery), among others.

Per the Joint Tactical Networking Center (JTNC) Acquisition Decision Memorandum (ADM) of 20 January 2014, the Navy was designated to sustain and manage the Link 16 Waveform. MIDS, on behalf of Navy, took control of the Link 16 Software-Defined Radio (SDR) Waveform from Joint Tactical Networks (JTN) Program Management Office (PMO) in June 2015. MIDS will sustain the Link 16 SDR Waveform using existing MIDS and JTNC infrastructure and will utilize the DoD Information Repository (IR) to store Link 16 documentation and software. All Program of Record (POR) SDR Link 16 terminals will use a common waveform software baseline, ensuring interoperability and security. MIDS has taken on several support activities for Link 16 Waveform management, including Joint Networks Design Aid (JNDA), Link 16 Communications Security (COMSEC) Authority, and Spectrum Deconfliction Server Sustainment.

The Joint and Coalition communications, made possible by the MIDS family of radios, provide critical situational awareness, shorten decision-making cycles across the battlespace, increase force effectiveness, and minimize friendly fire incidents. The Link 16 capability that these radios provide is the backbone of tactical command and control, and will be for decades to come. The future of Joint and Coalition tactics will depend on the continued evolution of Link 16, TTNT, and other data links incorporated into the MIDS family of radios.

**Status:** O&S  
**Resource Sponsor:** N2/N6  
**SSP:** 59C0  
**Source:** PMA/PMW 101 – MIDS





# U.S. Fleet Forces Command (USFF)

## Overview

USFF trains, certifies, and provides combat-ready Navy forces to Combatant Commanders that are capable of conducting prompt, sustained naval, joint, and combined operations in support of U.S. national interests.

### Funded Work Efforts

FLEX

### Fleet Experimentation (FLEX): Undesignated

FLEX is a USFF/CPF collaborative process, managed by NWDC, and coordinated with numbered fleet commands. Funding supports experimentation planning, execution, data collection, analysis, and reporting. FLEX addresses fleet-prioritized warfighting gaps, CONOPS, Doctrine, Tactics, and Training development. Trident Warrior C4ISR experiments are a subset of FLEX, managed by SPAWAR. POM16 issues 71364 and 71127 (RDTE Under-execution) reduced FLEX by -20% FY15 and -15% FY16.

**Resource Sponsor:** N2/N6

**SSP:** 28F0

**Source:** OPNAV N2/N6







ACAT I 17 programs	ACAT II 7 programs	ACAT III 35 programs	ACAT IV 11 programs	AAP 21 programs
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		Materiel Solution Analysis (MSA)	Technology Maturation & Risk Reduction (TM&RR)	Engineering and Manufacturing Development (EMD)	Production and Deployment (P&D)	Operations and Support (O&S)
PEO C4I	PMW 120		Spectral	DCGS-N INC 2	DCGS-N INC 1 SSEE Inc F ICOP NITES-Next SSEE Mod AIS LBS UVU CCOP DRT CCOP SFE CCOP SPCS HWDDC	MetMF(R) NEXGEN
	PMW 130	NCSA SHARKCAGE			RADMERC	CND TKL
	PMW 150	NAMS NOSS MTC2		LMMT R2	C2P/CDLMS G-TSCMIS GBSP JEM JWARN LMMT R1	GCCS-M NTCSS Link 16
	PMW 160				ADNS	CANES ISNS CENTRIXS-M SCI Networks SubLAN
	PMW/A 170		NTCDL	GPNTS	NMT Air NAVWAR BFTN CBSP DMR GBS Sea NAVWAR	CWSP AN/SMQ-11 ESRP
	PMW 750				TacMobile	
	PMW 770			OE-538B Inc 2	CSRR OE-538A Inc 2 LBUCS SUBOPAUTH TACAMO/TGC-M	OE-538 Inc 1 SubHDR FSBS SAMS
	PMW 790				NC3 STACC	DJC2 Teleports JMINI CS
PEO EIS	PMW 205					NGEN NMCI
	PMW 220	ePS				Navy ERP
	PMW 240	NMMES-TR	BBD RMI			
	PMS 444				NJIS Phase 1 & 2 PRIDE	
PEO SS	PMW 146				MUOS UFO	
SPAWAR	FRD					NESP SHF SATCOM CDLS CSEL INMARSAT NAVSSI AN/SSN-6(V) TV-DTS AN/WRN-6(V) DAGR EPLRS-DR HFSAR TFDS UHF Mini-DAMA WRBS
SPAWAR Supported	PEO (T) PMA/PMW 101					MIDS

MILESTONE A

MILESTONE B

MILESTONE C



Appendix I Project Acquisition Lifecycle (74 Exploratory and Functional Projects)

		Exploratory	Functional
PEO C4I	PMW 120	RSCD	CCOP Legacy Subsystems Classic Reach MDA/S2A MIBS/JTT-M Navy Meteorology and Oceanography Analytic Node
	PMW 130		PKI
	PMW 150		ADSI MFOM NAOC2 NILE
	PMW/A 170		JALN-M NSLC-A PRP TDMA TIP
	PMW 770	AdvHDR SCAP CEP SCB Shore to Ship XENG	AN/BRR-6/6B ISDS
	PMW 790		C2OIX DMS Expeditionary C4I IW CS MOC Shore Messaging Modernization Telephony Teleport SPA USNO Precise Time and Astrometric Network USNO Network Modernization Project VSE
PEO EIS	PMW 240	ARM DON TRACKER MNP 2a/b/c NMRS	ADE CMS-ID DITPR/DADMS iNavy ILE/LMS JALIS Learning Content Services MRRS NAVY 311 NeL NIAPS NMPDS NSIPS NTMPS PERSYS Reserve Force Systems TFMMS
SPAWAR	FRD		CMS EMSS Iridium EMUT GCCS-J HF Legacy TVS JCSE Link 11 Legacy METOC SASC Sub 2Z Cog

Projects without  
a status:

PMW 110: Enterprise Services	PMW 130: Navy Cryptography and Key Management	PMW 130: Cybersecurity Services	PMW 205: BLII/OCONUS (ONE-NET)	PMW 220: SLDCADA
PMW 240: Mobile App Dev	PMW/A 170: Air Navigation	PMW/A 170: GPS Modernization	SPAWAR 5.0: AUSCANNZUKUS C4	SPAWAR 5.0: FORCEnet



## ACAT I (17 programs)

### ACAT IAC (7 programs)

Consolidated Afloat Networks and Enterprise Services (CANES), O&S, PMW 160, [15](#)  
Deployable Joint Command and Control (DJC2), O&S, PMW 790, [27](#)  
Distributed Common Ground System – Navy Increment 1 (DCGS-N Inc 1), P&D, PMW 120, [3](#)  
Distributed Common Ground System – Navy Increment 2 (DCGS-N Inc 2), EMD, PMW 120, [3](#)  
Global Command and Control System – Maritime (GCCS-M), O&S, PMW 150, [10](#)  
Naval Tactical Command Support System (NTCSS), O&S, PMW 150, [12](#)  
Next Generation Enterprise Network (NGEN), O&S, PMW 205, [35](#)

### ACAT IAM (3 programs)

Navy Enterprise Resource Planning (Navy ERP), O&S, PMW 220, [37](#)  
Navy Marine Corps Intranet (NMCI), O&S, PMW 205, [35](#)  
Teleports, O&S, PMW 790, [29](#)

### ACAT IC (5 programs)

Mobile User Objective System (MUOS), P&D, O&S, PMW 146, [31](#)  
Navy Extremely High Frequency SATCOM Program (NESP), O&S, SPAWAR FRD, [50](#)  
Navy Multiband Terminal (NMT), P&D, PMW/A 170, [20](#)  
PMA/PMW 101 – Multifunctional Information Distribution System (MIDS), O&S, PEO (T), [61](#)  
Ultra-High Frequency Follow-On (UFO), O&S, PMW 146, [32](#)

### Pre-ACAT (IAM Planned) (2 programs)

Electronic Procurement System (ePS), MSA, PMW 220, [37](#)  
Navy Maritime Maintenance Enterprise Solution – Technical Refresh (NMES-TR), MSA, PMS 444, [45](#)

## ACAT II (7 programs)

Automated Digital Network System (ADNS), P&D, PMW 160, [14](#)  
Command & Control Processor (C2P)/Common Data Link Management System (CDLMS), P&D, PMW 150, [9](#)  
Common Submarine Radio Room (CSRR), P&D, PMW 770, [23](#)  
Integrated Shipboard Network System (ISNS), O&S, PMW 160, [15](#)  
Link 16 Network, O&S, PMW 150, [11](#)  
Ships Signal Exploitation Equipment Increment F (SSEE Inc F), P&D, PMW 120, [5](#)  
Super High Frequency (SHF) SATCOM, O&S, SPAWAR FRD, [50](#)

## ACAT III (35 programs)

Battle Force Tactical Network (BFTN), P&D, PMW/A 170, [17](#)  
Combat Survivor Evader Locator (CSEL), O&S, SPAWAR FRD, [48](#)  
Combined Enterprise Regional Information Exchange System – Maritime (CENTRIXS-M), O&S, PMW 160, [15](#)  
Commercial Broadband Satellite Program (CBSP), P&D, PMW/A 170, [18](#)  
Commercial Wideband Satellite Program (CWSP), O&S, PMW/A 170, [18](#)  
Communications Data Link System (CDLS), O&S, SPAWAR FRD, [48](#)  
Digital Modular Radio (DMR), P&D, PMW/A 170, [18](#)  
Global Broadcasting Service Shipboard Antenna System (GBS), P&D, PMW/A 170, [19](#)  
Global-Theater Security Cooperation Management Information System (G-TSCMIS), P&D, PMW 150, [10](#)  
GPS Positioning, Navigation, and Timing Services (GPNTS), EMD, PMW/A 170, [19](#)  
Intelligence Carry On Program (ICOP), P&D, PMW 120, [3](#)  
International Maritime Satellite Program (INMARSAT), O&S, SPAWAR FRD, [49](#)  
Link Monitoring Management Tool (LMMT), R1 P&D and R2 EMD, PMW 150, [11](#)  
Multi-Function Mast Antenna (OE-538) Inc 1, O&S, PMW 770, [24](#)  
Multi-Function Mast Antenna (OE-538A) Inc 2, P&D, PMW 770, [24](#)  
Multi-Function Mast Antenna (OE-538B) Inc 2, EMD, PMW 770, [24](#)

Naval Integrated Tactical Environmental System-Next Generation (NITES-Next), P&D, PMW 120, [5](#)  
Navigation Warfare Air (Air NAVWAR), P&D, PMW/A 170, [20](#)  
Navigation Warfare Sea (Sea NAVWAR), P&D, PMW/A 170, [20](#)  
Network Tactical Common Data Link (NTCDL), TM&RR, PMW/A 170, [20](#)  
Sensitive Compartmented Information Networks (SCI Networks), O&S, PMW 160, [15](#)  
Ships Signal Exploitation Equipment Increment E (SSEE Inc E), O&S, PMW 120, [5](#)  
Ships Signal Exploitation Equipment (SSEE) Modifications, P&D, PMW 120, [6](#)  
Submarine High Data Rate Antenna (SubHDR), O&S, PMW 770, [25](#)  
Submarine Local Area Network (SubLAN), O&S, PMW 160, [16](#)  
Tactical Mobile (TacMobile), P&D, PMW 750, [22](#)

### Army

Global Biosurveillance Portal (GBSP), P&D, PMW 150, [9](#)  
Joint Effects Model (JEM), P&D, PMW 150, [10](#)  
Joint Warning and Reporting Network (JWARN), P&D, PMW 150, [11](#)

### Pre-ACAT (III Planned) (6 programs)

Maritime Tactical Command & Control (MTC2), TM&RR, PMW 150, [11](#)  
Naval Aviation Maintenance System (NAMS), MSA, PMW 150, [12](#)  
Naval Operational Supply System (NOSS), MSA, PMW 150, [12](#)  
Navy Cyber Situational Awareness (NCSA), MSA, PMW 130, [8](#)  
SHARKCAGE, MSA, PMW 130, [8](#)  
Spectral, TM&RR, PMW 120, [6](#)

## ACAT IV (11 programs)

### ACAT IVM (3 programs)

Littoral Battlespace Sensing – Unmanned Undersea Vehicles (LBS UUV), P&D, PMW 120, [4](#)  
Shore Tactical Assured Command and Control (STACC), P&D, PMW 790, [28](#)  
Television Direct to Sailors (TV-DTS), O&S, SPAWAR FRD, [51](#)

### ACAT IVT (8 programs)

AN/SMQ-11 Environmental Satellite Receiver Processor Program (ESRP), O&S, PMW/A 170, [17](#)  
Automatic Identification System (AIS), P&D, PMW 120, [2](#)  
Computer Network Defense (CND), O&S, PMW 130, [7](#)  
Joint MILSATCOM Network Integrated Control System (JMINI CS), O&S, PMW 790, [27](#)  
Low Band Universal Communications System (LBUCS), P&D, PMW 770, [24](#)  
Meteorological Mobile Facility (Replacement) (MetMF(R)) Next Generation (NEXGEN), O&S, PMW 120, [4](#)  
Navigation Sensor System Interface (NAVSSI AN/SSN-6(V)), O&S, SPAWAR FRD, [50](#)  
Nuclear C3 Navy Modernized Hybrid Solution (NC3), P&D, PMW 790, [28](#)

## AAP (21 programs)

Billet Based Distribution (BBD), TM&RR, PMW 240, [40](#)  
Cryptological Carry On Program (CCOP) Digital Receiver Technology (DRT), P&D, PMW 120, [2](#)  
Cryptological Carry On Program (CCOP) Special Fit Equipment (SFE), P&D, PMW 120, [2](#)  
Cryptological Carry On Program (CCOP) Special Purpose Carry-On Subsystems (SPCS), P&D, PMW 120, [3](#)  
Defense Advanced GPS Receiver (DAGR), O&S, SPAWAR FRD, [48](#)  
Enhanced Position Location Reporting System – Data Radios (EPLRS-DR), O&S, SPAWAR FRD, [49](#)  
Fixed Submarine Broadcast System (FSBS) High Power, O&S, PMW 770, [23](#)  
Hazardous Weather Detection and Display Capability (HWDDC), P&D, PMW 120, [3](#)  
High Frequency Shipboard Automatic Link Establishment Radio Program (HFSAR), O&S, SPAWAR FRD, [49](#)  
Naval Justice Information System (NJIS) Phase 1 and 2, P&D, O&S, PMW 240, [42](#)  
Personalized Recruiting for Immediate & Delayed Enlistment (PRIDE), O&S, PMW 240, [43](#)  
Radiant Mercury (RADMERC), P&D, PMW 130, [8](#)  
Risk Management Information (RMI), TM&RR, PMW 240, [44](#)

## Appendix II ACAT Designation

Satellite Signals Navigation Set (AN/WRN-6(V)), O&S, SPAWAR FRD, [50](#)  
Submarine Antenna Modifications and Sustainment (SAMS), O&S, PMW 770, [24](#)  
Submarine Operating Authority (SUBOPAUTH), P&D, PMW 770, [25](#)  
Tactical Key Loader (TKL), O&S, PMW 130, [8](#)  
Take Charge and Move Out (TACAMO) Ground Communications – Mobile (TGC-M), P&D, PMW 770, [25](#)  
Time and Frequency Distribution System (TFDS), O&S, SPAWAR FRD, [51](#)  
Ultra High Frequency (UHF) Legacy and Miniaturized Demand Assigned Multiple Access (Mini-DAMA), O&S, SPAWAR FRD, [51](#)  
Wireless Reach Back System (WRBS), O&S, SPAWAR FRD, [51](#)

## Project (74 projects)

Advanced High Data Rate Antenna (AdvHDR), Exploratory, PMW 770, [23](#)  
Air Defense System Integrator (ADSI), Functional, PMW 150, [9](#)  
Air Navigation, PMW/A 170, [17](#)  
Application Relationship Management (ARM), Exploratory, PMW 240, [39](#)  
AUSCANNZUKUS C4, SPAWAR 5.0, [53](#)  
Authoritative Data Environment (ADE), Functional, PMW 240, [39](#)  
Base Level Information Infrastructure (BLII)/OCONUS Navy Enterprise Network (ONE-NET), PMW 205, [35](#)  
Career Management System – Interactive Detailing (CMS-ID), Functional, PMW 240, [40](#)  
Clarinet Merlin Sustainment (CMS), Functional, SPAWAR FRD, [48](#)  
Classic Reach, Functional, PMW 120, [2](#)  
Command and Control Official Information eXchange (C2OIX), Functional, PMW 790, [26](#)  
Cryptological Carry On Program (CCOP) Legacy Subsystems, Functional, PMW 120, [3](#)  
Cybersecurity Services, PMW 130, [7](#)  
Defense Messaging Systems (DMS), Functional, PMW 790, [26](#)  
Department of the Navy (DON) Tasking, Records, and Consolidated Knowledge Enterprise Repository (TRACKER), Exploratory, PMW 240, [40](#)  
DoD Information Technology Portfolio Repository (DITPR)/DON Applications and Database Management System (DADMS), Functional, PMW 240, [40](#)  
Enhanced Man-pack UHF Terminal (EMUT), Functional, SPAWAR FRD, [49](#)  
Enhanced Mobile Satellite Service (EMSS) Iridium, Functional, SPAWAR FRD, [49](#)  
Enterprise Services, PMW 110, [34](#)  
Expeditionary C4I, Functional, PMW 790, [27](#)  
FORCEnet, SPAWAR 5.0, [54](#)  
Global Command and Control Systems – Joint (GCCS-J), Functional, SPAWAR FRD, [49](#)  
GPS Modernization, PMW/A 170, [19](#)  
High Frequency (HF) Legacy, Functional, SPAWAR FRD, [49](#)  
iNAVY, Functional, PMW 240, [41](#)  
Information Screening and Delivery Subsystem (ISDS), Functional, PMW 770, [24](#)  
Integrated Learning Environment (ILE)/Learning Management System (LMS), Functional, PMW 240, [41](#)  
Integrated Waveform Control System (IW CS), Functional, PMW 790, [27](#)  
Joint Aerial Layer Network – Maritime (JALN-M), Functional, PMW/A 170, [19](#)  
Joint Air Logistics Information System (JALIS), Functional, PMW 240, [41](#)  
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